

MARCH

GREEN'S

1912

Fruit Grower

"A MAGAZINE WITH A MISSION"





Before planting an orchard, a garden, shade trees, shrubs or roses, send for

Green's New Catalogue

It contains valuable information for you about apple, plum, cherry, dwarf pear, peach, quince and nut trees; also grapes, gooseberries, currants, raspberries, blackberries, strawberries, garden roots, to plant, for home use or commercial purposes.

It also gives valuable information about evergreens, shade trees, ornamental trees, hedges, flowering vines, ornamental shrubs, hardy flowering plants and roses, illustrating and describing all the best kinds.

Green's new 1912 catalogue contains over one hundred photographs of fruits and ornamentals, representing one hundred and sixty-six varieties of fruits and many kinds of trees, shrubs and plants.

How Green's Trees Are Grown.

Charles A. Green, president of Green's Nursery Company, has an organization which after thirty-three years of real experience in growing and selling nursery stock is now able to send you trees which have no superior.

Green's trees are grown right, headed right and have the right kind of root systems. Different kinds of trees require different kinds of soil. Green's Nursery Company has three nurseries. Each nursery having a soil on which certain kinds of trees have proved to grow best. By growing apple trees in the soil best adapted to apple trees we produce good, straight, thrifty trees. All other kinds of trees are grown in the same way.

Green grows and sells only the standard and well known varieties of fruit trees and new varieties which have been tested and found to have special merit.

The Importance of Quality.

For thirty-three years it has been Mr. Green's belief that farmers and fruit growers wanted first of all the highest quality trees true to name. He believed that price was not the first consideration to the fruit grower or farmer. You have heard over and over again that a poor tree is a costly investment at any price. We believe this is true and we believe you think it is true.

Because of this belief Green's Nursery Company has in the past and is now putting forth its efforts to grow good honest trees, shrubs and plants "True to Name" and of the highest quality. The amount of trees, shrubs and plants sent every year by Green's Nursery Company direct to people in the United States proves that quality trees "True to Name" are what the fruit growers and farmers want.

Trees Direct to You.

All our trees, shrubs and plants are shipped direct from our nursery packing houses to you anywhere in this country. They are packed in packages, bales and boxes and are sent by mail, express or freight, according to order.

Never Employed an Agent.

We never had an agent traveling for us. Our catalogue has always been our only salesman. This means that we can afford to sell you our trees for less money than you will have to pay for trees from agents or middlemen who have large salaries and expense accounts.

Our Aim

From the very beginning in 1879 has always been and is to make every planter of Green's trees Successful, Prosperous, Satisfied and Happy.

Send us a postal asking for it, if you have not received your catalogue for 1912.

Remember *now* is the time to order.

Green's Nursery Company,

Box 91

ROCHESTER, N. Y.



GREEN'S FRUIT GROWER

A Monthly Magazine for the Fruit Growing Farmer and His Family

CHARLES A. GREEN, Editor

Volume 32

ROCHESTER, N. Y., MARCH, 1912

Number 3

Report of Proceedings of the Western New York Horticultural Society, Recently Held at Rochester, N. Y.

President Wm. C. Barry said in his address: "To the nurserymen of Western New York must be accorded the honor and distinction of having established and maintained a business which has promoted great state and national prosperity in rendering vast areas of land fruitful and profitable as well as in supplying an article of food, the value of which cannot be over estimated.

"When we consider the extent of the area and the amount of the product, and the possibilities of the future some idea of the importance of the industry may perhaps be formed.

An old established firm, in 1859, in referring to the progress made by their nursery, said: "We give a brief history of our progress, not in the spirit of boasting, but simply to show our friends and patrons how their generous encouragement has aided us in extending and perfecting our culture and in carrying out the plan of a large nursery upon which we started twenty years ago and which was then considered a youthful chimera by almost everybody but ourselves."

WHERE THE CREDIT BELONGS.

"I have drawn your attention today to some of the results of the fifty years work of the agriculturist and horticulturist of Western New York, for the purpose of showing that little time has been wasted and much work of state and national importance has been effected, and I wish to assure you that if as much progress be made in the fifty years to come we shall all surely reap a rich reward.

"We do not always give credit where it is due. The workers of to-day are often disposed to forget the great difficulties and serious troubles of the pioneers and it is our duty on occasions like this to recall the efforts of our fathers and to renew our acknowledgements to them for much that we enjoy at the present time.

"As we look back and note the splendid start fruit culture made in this state sixty years ago, directed by ambitious, far sighted, progressive men, it is a little surprising that even greater progress has not been made than we are able to record to-day.

"The truth is that the horticultural interests for many years did not receive the state and national aid and consideration to which they were justly entitled, and there was a long period when conditions were bad, dormant, and the industry instead of progressing rapidly made headway slowly.

SOME AIDS TO FRUIT CULTURE SHOW.

"With the establishment of the agricultural colleges and experiment stations, the industry took on new life and during the last thirty years has been extending in a most substantial and satisfactory manner in all parts of the country. But when we view the vast areas of uncultivated and waste land in this the Empire State, as well as in other states, it must be admitted that there is room for great improvement, and I am glad to say that the necessities of the times have so impressed our bankers, railroad executives and business men generally that they have proffered their aid and counsel to improve agricultural conditions, and to forward the movement for the adoption of better methods of cultivation, packing, marketing, drainage, irrigation, etc.

"It certainly augurs well for the fruit interests as well as agriculture gener-

ally, when these important agencies and powerful influences become enlisted in the work, and it may be safely predicted that great good will surely result from this aid and cooperation so generously extended.

"An instance of the city's interest in the welfare of the grower given recently when in the month of December last the Rochester Chamber of Commerce under the direction of President Eastwood instituted an apple show in the rooms of the chamber which excited a great deal of interest and attracted much attention. This was a practical step in the right direction, the first of its kind in this locality to my knowledge, and Mr. Eastwood and his committee are to be congratulated upon the success attained and I sincerely hope that the example given will encourage similar undertakings in the future.

PROBLEMS FOR THE FUTURE.

"There are now thousands of acres

of unprofitable land in the Empire State which should be made profitable. The question is a large one and of vital importance and deserves the serious consideration of those best qualified to solve the problem. It is certainly extremely unfortunate that matters of such consequence, as the agricultural interests, should have received so little attention and consideration from those in authority. It is a little late now, but perhaps by extra effort generous appropriations, diligent and conscientious work the damage may be repaired to some extent. But first let us acknowledge our error, introduce a reform, and the individual, the state and the nation will surely participate to an extraordinary degree in the general prosperity sure to result from the adoption of such a course.

"Whatever tends to increase and improve the products of the soil serves to augment the common stock and enables the grower to supply the market with more and better products and to buy more liberally of the other classes in return. The merchant and the manufacturer, the mechanic and the professional man, have all, therefore, as deep an interest in promoting the improvement of agriculture and horticulture as the farmer and fruit grower have."

"But in any case it is up to the growers now in view of the new interest manifested by the consumer, to show at least appre-

INCREASE IN FARM VALUES.

"Farm land values are increasing at a most remarkable rate. Good roads, the trolleys, the telephone and the automobile have completely changed life on the farm and city people are forsaking their narrow quarters and rushing to the country, acquiring large properties, setting out extensive orchards and erecting beautiful residences. There is plenty of room for the newcomers and abundant opportunity for them to indulge their

INTERESTING FRUIT EXHIBIT.

One of the interesting features of the meeting which opened this morning in the exhibition of fruits in the Convention Hall annex. Especially noteworthy is the exhibit of the New York State Agricultural Experiment Station, at Geneva, which comprises nearly every variety raised by the growers of western New York. Displayed in neat boxes are choicest specimens of Greenings, yellow pippins, red Baldwins, Jersey blues, delicate little lady apples, blushing pink in their paper wrappings and huge twenty-ounce apples, Deacon Joneses and Olympias, a truly celestial fruit, fit, as its name implies, to grace the banquet tables of the gods.

An exhibit of injurious insect specimens, mounted in glass cases, forms another part of the Geneva experiment station's exhibit. The Growers' and Shippers' Exchange of Rochester, the Fall Brook Farms, Genesee, and other big New York growers have excellent exhibits, while many smaller growers have entered their choicest specimens in the prize contests. The latter are in charge of students picked from the College of Agriculture at Cornell University, who will make the awards.

Samuel Fraser said: "Nothing finer has ever been seen in New York State, and I was in attendance at the Land and Irrigation Show at Madison Square Garden, New York, in November, when every apple section of the Union, north, south, east and west, attempted to prove its claims to supremacy as the land of the apple. There was nothing finer to be seen there. I do not mean that the exhibit there was not larger, but I do mean that this apple show right here in Rochester, in the heart of the apple belt, has the very acme of apple excellence. It is worth coming a long distance to see."

It has been said that the apples of East lack coloring. Such an assertion comes with little force in the presence of the big exhibit from the New York State Experiment Station at Geneva, which arranged in boxes covering a space of about 350 square feet, is a riot of color, ranging from pale greens and yellow up to gorgeous reds.

ROCHESTER A POOR MARKET.

The opening talk was followed by a discussion in which the subject of Rochester as a market for fruit came up incidentally for consideration. Several men declared that Rochester is the poorest fruit market in western New York and that only the lowest prices can be obtained here. This, they said, was the reason why the best fruits are not brought to Rochester, a condition of which President Barry had complained. When the Rochester people are educated to see the difference between the best quality of sorted fruits and the poorest, and are willing to pay for the better grades, then and then only will they get the best products of the fruitful community in which they live.

IMMORTALITY OF THE SOIL.

"Soils grow old, just as men grow old," said Professor Jacob G. Lipman, director of the New Jersey Agricultural College among other things, "but soils may be rejuvenated by the right methods of treatment. It may be truly said that soils are immortal, and in a sense it is as important that we consider and discuss the immortality of the soil as it is to consider and discuss the immortality of the soul."

Cover crops, said Professor Lipman, are green crops which are planted for two purposes, first, to hold the soil in place on hillsides and prevent erosion and the



Last month we devoted considerable space and many illustrations on ornamentals, seeking to awaken a desire in our readers to add beauty and saleable value to their home. We have had many inquiries about laying out grounds and have tried to advise as the best we could without knowing the exact conditions; and we have gone to considerable expense to show here an ideal site with an ideal home with ideal grounds. This hedge as shown in the above illustration is the California Privet Hedge well taken care of. Notice the symmetry in laying out the grounds.

fancies and enthusiasm, and if the same ability be displayed on the farm as in their legitimate business, there is no danger of disappointment or failure. If overproduction is feared, larger consumption must be advocated, inculcated and effected. Everybody's efforts must be enlisted in the fruit campaign.

"One of the strongest evidences of a change of sentiment in regard to farming as an occupation, is shown in the large number of students in attendance at the College of Agriculture at Cornell. Today more than 1,000 young men are pursuing the course of study which will specially prepare them for this pursuit. Indeed so great is the interest manifested that the supply of teachers generally is not sufficient for the demand. With the extension of knowledge and the increase in the number of educated men engaging in the business, the outlook for fruit growing is bright and encouraging. The members of this locality I know desire to express their readiness to co-operate in every way to promote the good work.

"Let us all practice the suggestion: 'Plant the best seed of every good fruit. Good fruits to raise, some lands to suit: Fruits which shall live, their bounties to shed, On millions of souls, when you shall be dead. These are creations that do the world good. Treasures and pleasures, with health in your food, Pleasures which leave in the memory no sting, No grief on the soul, no stain on Time's wing.'"

blowing away of light, sandy soils, and, second, to improve the character of the soils.

"A professor at our station," said the speaker, "used to say that in some sections of Jersey, where the hillsides are steep, it takes a first and second mortgage to hold the soil in place. Cover crops are of great value in such a locality."

VALUES OF COVER CROPS.

The relative values of various cover crops were discussed by the speaker. Cover crops, he asserted, act on the soil in three ways, mechanically, chemically and bacteriologically. The values of the different crops from these points of view were taken up in detail, the speaker giving concrete illustrations and examples to make his points clear.

Professor Lipman emphasized the value of cover crops as fertilizers, comparing them with animal and artificial fertilizers. They are very rich in nitrogen, he said, and are being extensively used in New Jersey, where the raising of garden truck is largely taking the place of the old crops. Alfalfa as a cover crop was recommended, but the speaker said that on the whole winter vetch had been found to give the most satisfactory results.

SAVING TREES FROM FROST.

C. H. Williamson of Quincy, Ill., gave an interesting address at the afternoon session yesterday on "Some Phases of Western Orcharding," from which it appears that scientific principles are followed in the culture of apples in that state. Mr. Williamson is an owner of extensive orchards and also a buyer of apples in large quantities. To save his crop from frost he uses 20,000 oil heaters, distributed through his orchards, fifty to the acre. When the temperature falls below 36 degrees during the season when frost would prove injurious to the trees an electric thermometer sounds an alarm and the men are roused from sleep to light the heaters. By this method, which sounds like a dream, but which Mr. Williamson declares is entirely practical, many a crop is saved from destruction or serious injury.

W. I. Smith of Hilton, read an interesting paper on cherry culture, in which he made the assertion that the cultivation of the cherry can be made as profitable as that of any other fruit, providing orchardists know what varieties to grow and how to grow them. If the cherry is to thrive, said Mr. Smith, it must be planted on high, well-drained soil. Commercial varieties which he recommended were the Montmorency, English Morello, Napoleon, Black Tartarian and Bing.

A round table on "Vegetable Gardening" was held in the portion of the hall on the north side, that has been shut off from the main auditorium. Many phases of the subject were discussed, and there was a good sized attendance.

As a result of the apple exhibition contest, Salisbury Brothers won for the second time a large silver cup donated by B. G. Pratt, of New York. The cup now becomes the property of the Salisbury Brothers according to the terms under which it was donated. The prize for the best collection of market apples was won by L. Tanner; dessert apples, F. W. Clark & Sons; best ten or more varieties, D. D. Gordon. D. K. Bell of Brighton won all first prizes for pears.

FIRST ANNUAL BANQUET.

The first annual banquet of the society was held last evening at the Duffy-Powers restaurant, about 400 persons being present. Professor John Craig, of the New York State College of Agriculture, at Cornell, was toastmaster and his short witty speeches kept the guests amused and afforded a welcome change from the technical discussions to which the members of the society had been listening during the two days they had been in session.

C. H. Williamson, of Quincy, Ill., who was one of the speakers at the afternoon meeting, spoke again on the subject of apple culture, telling his hearers that in his opinion the famed flavor of the apple of the Far West is largely a myth. Mr. Williamson expressed his firm belief that the apple of the East is coming into its own. He spoke of the advantage of advertising and said he considered it a serious part of the New York grower's business to see that his products occupies a prominent place on the market.

Robert D. Graham, of Grand Rapids, Mich., who spoke at the morning session on the subject of peach culture, also responded to a toast in which he outlined many of the principles of business practice which should underlie the fruit raising industry. Mr. Graham was introduced as the "banker-applegrower."

Former Judge John D. Lynn, of this city, responded to the toast "The Ultimate Consumer," beginning in the humorous vein that has made him well known as an after-dinner speaker. Judge Lynn told his audience that the reason bankers are taking up fruit growing is because they are the only people who have money to do so. He said the average consumer

has lost confidence in the fruit grower because of previous experience. He told those present that it will first be necessary to get the fruit grower to pack right, and then to educate the city man to grade his prices up to the best quality fruit. Sometimes, he said, the farmer charges an exorbitant price for graded apples, and sometimes it is difficult to get a buyer to pay even a reasonable price for the best, because of the general market price.

PEACH BUDS DOING WELL.

C. Baker & Sons, of Greece, have made a test of cuttings from about 50 acres of peach trees and found that about 90 per cent. of them are alive. This news should allay the fears of many fruit growers and others that the mildness of the early winter would start the buds too soon and that they would suffer from the freezing weather later.

"NUTS TALK COMMERCIALLY."

The last address of the convention was given by Professor John Craig of Cornell University on growing nuts. The speaker stated that, although nuts are indigenous and can be grown on a commercial basis, the importation of nuts into this country is greater than the export of apples. He said in part: "The term 'nut' includes a variety of the fruit products of trees, plants and shrubs. This fruit is more closely associated with the sentimental aspects of a country's life, but nuts talk commercially. The country is a nut consuming, but not a nut producing country. We buy more nuts than we sell apples."

In speaking of the different varieties of nut trees, he first gave the palm to the English walnut, which he described as "a forest patrician, supplying an admirable fruit and presenting a mien and figure of the highest type of beauty."

Slyke, Chemist at the New York Agricultural Experiment Station, discussed "The Geneva Station Test for the Purity of Lime."

EDUCATIONAL EXHIBIT.

Appearing under another name, or perhaps no name at all, but nevertheless appearing, was the midway, and like all attractions of that class, there was no lack of features. There was the exhibit made by the New York State College of Agriculture, at Cornell, of the foes of the pomologist. These fungi and insects whose names lengthen into an imposing list are shown in every stage of development from the egg up to the adult insect.

If there are such pests, then there must of necessity be means of control, and these are set forth by the display of fungicides and insecticides, which take the place of the birds that have been diverted from their original mission of controlling this underworld to a niche on some wondrous headgear.

Although the land agent is not essentially a part of a horticultural show, the fact that the class is abundantly represented at the meeting indicates a condition vastly different from that of ten years ago, when land values touched rock bottom, and the investor who placed money in farm lands in this section was classed along with infants and others in need of a guardian. But this day is passed, and rural holdings are advancing with a rapidity that is attracting the attention of the city man with means. This was more than hinted at by the generous sprinkling of men who know farming by theory rather than practice in the crowds at Convention Hall.

Luck is the factor to which other people owe their success.



An Indian tribe from a New York state reservation makes annual visits to Rochester for their own amusement and to interest and instruct our people in their rites and ceremonies. These Indians have adopted my friend, A. B. Lamberton, president of the park board, as one of their tribe.

He stated that the chestnut produces a wholesome and palatable fruit, which is highly profitable, will thrive on steep hillsides and is withal a handsome shade tree. He said that at the present time the chestnut tree is somewhat under a cloud on account of a bark disease that has attacked the tree, with disastrous results. Regarding the hickory, the speaker said it approached the acme of excellence and quality, and that in delicacy and flavor and nutritious properties it is hardly surpassed by any nut which grows. The pecan, the speaker said, can be grown profitably in New England.

DUTIES OF A SPRAY NOZZLE.

One of the features of the afternoon program was the address of Professor Howard W. Riley, of Cornell University who talked on the topic "What a Spray Nozzle Should Do." In the course of his comment, Professor Riley said:

"This topic of what a spray nozzle should do is important. The nozzle is the business end of the whole outfit. It is for the nozzle that we have the engine the pump, the hose. It is the nozzle that determines the pressure to be carried and the pressure determines the size of the engine, the grade of the hose, the wear on the disks. High pressures are responsible for a good many of the troubles of the spray rig. On almost any job there is a neat way of doing things that produces results with little effort and there is a clumsy way demanding much effort and yielding poor results."

Continuing, the speaker gave much information dealing in a practical way with the every-day problems on the subject.

In these days when spray compounds have become one of the indispensables in controlling insects and fungi, the subject of the chemical purity of the ingredients of the various spray mixtures is one of much importance, and Dr. L. L. Van

Save Lives of Bees When Spraying.

Green's Fruit Grower has many readers who are deeply interested in the honey bee. Several of these readers have written us asking that we appeal to fruit growers requesting them not to spray their fruit trees with poisonous sprays when the trees are filled with blossoms in their early stage of development at the period when the bees are actively gathering honey from the blossoms of the fruit trees.

It is everywhere recognized that the honey bee is the friend of the fruit grower inasmuch as the bee fills a necessary office in carrying the pollen from one blossom to another, thus rendering thousands of blossoms upon each tree fertile which, were it not for this service of the bee, would be infertile and the tree unproductive of fruit.

If you happen to be one of those who do not appreciate the service of bees, notice that if the days of blossoming are wet or rainy days when the bees cannot work among the blossoms, that your fruit trees are apt to be barren that year, or nearly so. But if on a sunny morning you will take a walk in your orchards or in your berry fields or vineyards, you hear a hum of bees on every side that should be music in the ears of fruit growers. Examine the blossoms carefully and you will find a honey bee on almost every cluster.

If you have no bees of your own it will pay you to tempt some bee keeper to locate in your vicinity. In other words, it would pay you to hire some one to supply your orchards and berry fields with honey bees in order that the bees may carry about on their legs pollen from flower to flower to make the trees, plants and vines productive of fruit.

Man is wasteful and thoughtless as a race, though there are some who are thoughtful, appreciative and considerate, thus every year large numbers of bees are

destroyed by the poisonous sprays thrown into the blossoms for the purpose of destroying injurious insects. The best time for such spraying is after the freshness of the blossom has disappeared, but before the blossom turns over, as will the blossom of apple or pear when the fruit first begins to form. The blossoms must stand erect when the spray is applied, so that the poisonous spray may gather in each blossom as in a cup upturned toward the sun.

Why This Fruit Grower Succeeded.

I can never forget the success of a grape grower near Rochester, N. Y. He had but a small vineyard but he spent all of his time in his vineyard cultivating, pruning, tying up or thinning the fruit, or spraying the vines should it be necessary. His grape vines were the pride of his life. He took greater delight in working upon his vines than in going fishing, hunting or to a picnic.

Now for the result. This enthusiastic grape grower produced the finest grapes, the largest clusters, the biggest berries and the best in quality of any coming into the city market. He was able to sell his grapes at a fancy price, nearly double that of the price received by ordinary fruit growers. This occurred many years ago. I do not doubt that this good man has gone to his final reward, and that his body lies buried in the village church yard, but the vision of his vineyard still elings to my memory. As I see no more such beautiful grapes in the market as this man used to produce I assume that the present owner of the vineyard is neglectful, that the soil is not cultivated, the vines are left unpruned, that desolation prevails. Vineyards are seldom abandoned because they are old. Grape vines have been known to bear fruit for over a hundred years, but neglected vineyards are not profitable.

Prevention of Injury to Fruit Trees by Late Spring Frosts.—Why don't my fruit trees bear fruit more, is the question sometimes asked. The answer often is that the life of the blossoms, after opening or before opening, has been destroyed by late spring frosts. The apricot is the earliest fruit tree to blossom at the North thus the apricot blossoms are often killed by late spring frosts. Peach blossoms are the ones next to the apricot most often injured. Sometimes even the hardy pear, plum, cherry and apple blossoms are destroyed by frosts occurring late in the spring. These late spring frosts strike with double severity on fruit trees located in valleys or low stretches of level land. Fruit trees located on hillsides or hill-tops are far less effected by late spring frosts than those on lowland. Fruit trees located near lakes or other large bodies of water are protected from injury from late spring frosts.

Late spring frosts seem more liable to occur in the far western states than in the eastern states, thus the ingenuity of the western fruit growers has been more greatly exercised than has ours of the east. Our western friends have earned a position to teach us something about protecting fruit trees from late spring frosts. There are few orchardists in the eastern and middle states who use any precaution against injury. The few who do use methods of prevention simply burn piles of straw or brush on a field or orchard and set fire to them at from 1 to 3 o'clock in the morning when the thermometer reaches its lowest stage. But in the west orchardists are using fire-pots which are filled with crude petroleum oil and which are placed in every part of the orchard and set on fire at the proper moment. This causes a dense smoke. Many orchardists think the smoke is quite as effective as the heat but others rely entirely upon the heat produced by this burning of coal oil. Whale oil is sometimes used but it cannot usually be bought at so low a price as coal oil. Numerous small fires are often preferable to large fires as the large fires may do injury to the branches and foliage. The novice will be surprised how little heat or warmth will prevent injury by frosts. I have found that the warm air coming into a field from wooded land has protected a bare strip of orchard lying adjacent to the wooded land. From 40 to 80 fires are being used to the acre. Possibly all these fires need not be lighted at once but more and more may be lighted as the cold increases. More fires are more necessary on the outside than the interior of the orchard. It is found easier to hold the temperature than to raise it after it has dropped below the freezing point. While the Bolton fire-pot is known to be a good one there are doubtless others equally as good. Coal is sometimes used in place of oil but it is usually found to be more expensive.

Some men burn their bridges behind them, and some in front of them.

The man with push often has to take a back seat to the man with a pull.

Cross Pollination of Orchards.

One of the very perplexing questions that is in the minds of all our progressive orchardists is that of cross pollination. It is quite generally believed that there are many varieties of our fruits that are not suitable to be planted alone because of the imperfection of their flowers. The Bartlett pear where planted in large blocks is often complained of as not being as productive as it should be and the fruit is not so large and well developed as where there are but few trees of it together and near other varieties. The Wild Goose plum has been known as a shy bearer ever since its introduction some forty years ago, except when planted near other kinds that bloom at the same time. The Baldwin apple is considered uncertain in its bearing in many places or in certain years. There are many more varieties of orchard fruits that might be mentioned as having similarly unsatisfactory habits and we all know that there are strawberries and grapes that will not bear at all unless cross-pollinated. It is no more wonder in one case than in the other, for all of the improved fruits are variations from the normal types and their floral organs are often materially affected.

The question is, which varieties should be planted alone and which should not be. And still more definitely do we wish to know how to mate the right varieties. Fortunately, there have been some very carefully planned and faithfully executed experiments with some of our leading orchard fruits that give us light on this subject.

The first notable series of experiment in cross-pollinating orchard fruits with the intention of determining the reciprocal value of their pollen, if any existed, was by Mr. M. B. Waite of the U. S. Department of Agriculture. He began this work about 1890 and continued it for several years, until he had quite clearly proved that there are several varieties, the pear and apple that need the aid of the pollen of other varieties and that some are quite fertile within themselves. It was very evident that the Bartlett pear and Baldwin apple, which are two of our leading orchard fruits were induced to set fruit much more freely when their flowers had been crossed with the pollen from certain other varieties. And a more remarkable discovery was made; that the size and shape of the cross pollinated specimens was changed from the old or self-pollinated type. Not that they had transmitted to them the shapes or any other characteristics of the varieties from which the pollen came but the fact of their cross pollination had stimulated them to full development. Their seeds were more abundant and perfect and with this normal condition the flesh had also attained its proper development.

Another set of the valuable experiments in cross-pollination was made by Dr. S. W. Fletcher, now the Director of the Virginia Experiment Station, but the experiments were made in Michigan and West Virginia very largely. They were much more extensive than those of Mr. Waite and covered a period of ten years or more. Much of the work was done with pears and some with peaches and plums. The conclusions reached by actual tests were clearly in favor of planting different varieties that bloom at the same time close enough together for cross pollination. The Kieffer pear was wonderfully improved in yield and size by the pollen of several of the standard varieties and among them the Bartlett, which is quite impotent on the pistils of its own flowers. By actual count of the flowers masculated and pollinated and accurately recorded up to the end of the fruiting period for these years there was a most remarkable showing in favor of those cross-pollinated. From 1268 blossoms of

Kieffer crossed with Kieffer there were 5 fruits or 1 in 253. From 2303 Kieffer blossoms crossed with Bartlett there were 446 fruits, or in 5. And so it came out with many more Kieffer blossoms crossed with other varieties, in one case, that of Clairgean pollen used, 1 in 3. And the size of the fruits from cross-pollination were materially larger than those from pollination from its own flowers. The same results were obtained from Bartlett flowers pollinated with its own pollen and that of several other standard varieties, only that the differences were more marked. The averages showed 1 in 513 from its own pollen and about 1 in 8 from other pollen. The cross-pollinated fruits were larger and had perfect seeds, while the self-pollinated pears were not only small but slim in shape and usually devoid of seeds or containing inferior ones.

The experiments with plums proved that they were benefitted by crossing but those with the Gold Drop peach did not show the least improvement.

Another very extensive and valuable series of experiments was planned and carried out by Professor C. I. Lewis and C. C. Vincent of Oregon. The cross-pollinating was done with the standard varieties of the apple and covered several

plates were coated with vaseline and placed at different distances from the trunks of trees in bloom and at different heights, from the ground to 9 feet high, during windy spells, to catch floating pollen grains. The examinations of these plates under microscopes proved that almost no pollen was carried beyond the ends of the branches.

To determine still further the facts of natural cross-pollination between neighboring trees the stamens and petals were all clipped from every flower bud on a certain tree before they opened and attendants placed to keep watch during the day for the visits of insects to these trees and also to trees that had their petals untouched. There were 1500 blossoms on the tree that was robbed of its attractive petals and also all its pollen. During the whole time that the stigma remained receptive to pollen, which was about a week, there were but 8 visits from bees to this tree, while to the next tree, 20 feet distant there were twice that many visits from bees in half an hour. There were but 5 fruits set on the masculated tree, although its pistils were perfect and exposed to the ordinary natural agencies of pollination. Neither the wind nor the insects carried pollen grains to them in

point is that the blocks of each variety should not be very large, nor to exceed five or six rows, and that they should bloom at the same time. The plants should see to the proper arrangement and nature, with the help of bees, will take care of the rest. These and other observations have proved that the Asiatic European and American plants will cross-pollinate each other, provided they bloom at the same time. And so it is with the Asiatic and European pears and with the cherries. With the peach and quince there does not seem to be much, if any, need of cross-pollination. There have been no very extensive experiments of this kind in New York, so far as I have been able to learn, but the observations so far have been reported to me by Prof. N. P. Hedrich of the Experiment Station at Geneva to incline him to the belief that no cross-pollination is needed in the commercial apple orchards of that State. This I think is rather a strange conclusion in view of the bare facts to the contrary as they have been proved by years of careful testing in other States.

I would plant so as to provide for cross-pollination and any benefits that may come from it.—H. E. Van Deman.



A graceful bend in the Genesee river, which stream flows through Rochester, N. Y., and divides Seneca park east and Seneca park west. Both shores of this river are beautifully wooded, not by artificial planting but from a natural growth.

years' efforts and there was no guessing done, for every operation was planned intelligently and performed accurately. While most of the work was done with the leading commercial varieties there were 87 in all experimented with. Of these 59 were found to be self-sterile and could not set fruit abundantly without the aid of other varieties. Of the rest there were 13 that were partially self-fertile and 15 that were entirely so. In studying over these lists it is seen that the varieties do not correspond in all cases in their ability to pollinate their own flowers, or the reverse, with the tests of the same varieties in the eastern States. This is, doubtless, owing to climatic differences. One of the very important facts that was developed was the sexual affinity between Esopus Spitzenberg and Yellow Newtons. They proved to be reciprocally cross-fertile. To the apple growers of the Northwest this is of the greatest importance, for they may be planted alternately with confidence of success. And further, most of the standard commercial varieties are reciprocal in their cross-pollination and may be planted with the assurance of success.

In connection with the experiments in pollination Prof. Lewis and his associates kept extensive records of the blooming periods of a large number of varieties of the apple, pear and cherry. They also made tests of the distances to which pollen is carried by the winds. Small glass

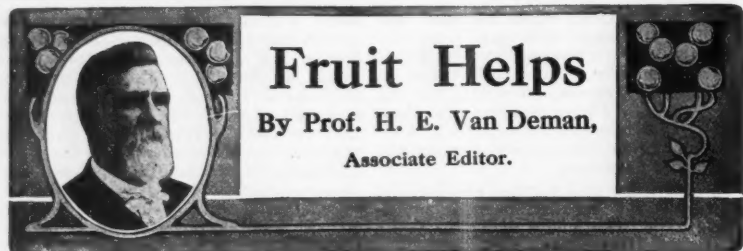
any consequential degree. This experiment and those of Prof. Fletcher in the East clearly proved that the honey bee in particular is a most useful agent in crossing the different varieties and that the winds are not of much effect. Therefore all fruit growers should keep bees for this very purpose if for no other. But bees properly handled are profitable for the honey they make and are interesting and enjoyable to have on the fruit farm. The best breeds and the most improved hives should be kept to be of the most benefit to the bee-keeper. This I am doing with all the orchards under my control, even to the pecan orchard in Louisiana, which however, has proved its varieties to be self-fertile, so far as tested.

At the Virginia Agricultural Experiment Station there have been conducted by Prof. H. L. Pricesome very valuable and extensive examinations and records made of the blooming of orchard fruits; also extensive temperature and rainfall records were kept. They include the apple, pear, peach, plum and cherry. No efforts were made with artificial inter-pollination or cross-pollination but there were notes kept of the possible results of that which naturally occurred. It was found that ten days practically covered the range of the blooming of all the varieties of each species and that there was abundant opportunity for cross-pollination within a reasonable radius. The main

Bees in Relation to Horticulture—Spraying.

It has come the time that one has to most always spray to keep down injurious insects that work on the fruit, but when is the proper time to spray is not known by a great many persons that may or do spray poisonous fluids or dust that will destroy the injurious insects working on the fruit. To spray during the blooming period not only does no good but does lots of harm in several ways. If one is spraying for the codling moth, the insect that usually does the most harm to growing fruit, this should not be done until the fruit at least begins to form, as the codling moth does not come in any appreciable numbers until after the bloom is over and the fruit begins, or has set; so to spray for these insects it should be done when they will get the poison will kill them.

If one is to spray for fungus diseases, this should be done early, even before blooming time. For insects that work on the fruit, it should not be done until the fruit at least is beginning to form, after the bloom has already had its effect in forming the fruit. We believe it will pay any one having fruit interests to also have some bees, as they come through the winter in colonies; they are much more abundant than other insects that work on fruit bloom when it is out so early in the spring.—Southern Fruit Grower.



Fruit Helps

By Prof. H. E. Van Deman,
Associate Editor.

How Grafting is Done.

I wish to give explicit directions for doing the work. It is supposed the scions are all safely stored in a damp cool place, ready to be taken out and used as needed.

GRAFTING TOOLS.

A saw will be needed to cut off the larger branches and the narrow bladed, bow backed pruning saws are the best, because they cause little friction in going through the wood and are light and easy to handle. A small butcher's saw changed so as to cut wood instead of bone does very well.

The style of grafting knives we see pictured in the books I have tried and do not like. One with a plain blade about three-fourths to one inch wide and three and one-half inches long made from one-eighth inch spring steel or an old file and well tempered is the very thing. It should be drawn to the edge with a very smooth flat bevel from the back and the end which is left square sharpened to an edge in the same way. The metal should extend to the butt end of the handle and be well riveted. A little hardwood club about ten inches long will serve as a mallet for splitting the stumps. A very sharp and well tempered pocket knife with a three-inch blade will serve to trim the scions. A pint cup to hold the trimmed scions completes the outfit, except a shallow basket to hold all these things.

GRAFTING WAX.

There are several ways to make grafting wax. One of the best is made from one part tallow, two of beeswax and four of rosin, melted together and poured into water to cool, then worked like taffy and made into balls about two and one-half inches in diameter. These should be covered with greased paper and may then be laid away for use at any time.

Another good wax is made from six pounds of rosin, one pound of paraffine and one pint of linseed oil treated as has been already mentioned.

Waxed cloth is very useful in binding about the grafts. This is made by rolling strips of four or six inch cotton cloth on a little stick for a core and putting them in melted grafting wax until well soaked, when they must be unrolled while hot and cooled on a wire or bush. These are torn into narrow strips when used.

WHAT BRANCHES TO GRAFT.

The most important point in deciding what branches to cut off in top-grafting is, that they should be those that are making the most vigorous growth. A weakly or subordinate branch will not push the graft and this is the chief object to be sought. Cut the main leaders at the top and on all sides of the tree. So distribute the grafts that when they grow the head will be as well balanced as possible. Leave on some of the smaller branches to encourage circulation of the sap until the grafts get well grown. Then they should be cut away or grafted if this seems necessary to fill out the head. Another point, do not cut branches over two and one-half inches in diameter because they make too large wounds. Go a little higher and cut off above a fork.

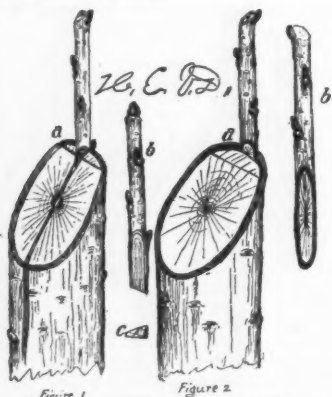


Figure 1 Figure 2

HOW TO MAKE THE CUTS.

It is said that experience is our best teacher and in grafting it has taught me never to make a square cut stump. I always slope the stump at an angle of about 45 degrees. The drawings show how this should be done, with the points cut off a little, making a shoulder about as wide as the scions are in diameter. These sloping cuts will heal over in half the time that square stumps will and leave no dead places as square stumps do. Sometimes they will be covered with new growth the first season. Try it and know

it from experience, as I have many thousands of times. And do not have long stumps. Six inches is usually long enough. Get the new wood from the grafts as near to the junction with the main stem or branch as possible. I have often seen grafts set far out on the branches, making long stilt-like stumps that were very bad for many reasons.

CLEFT AND SPLICE GRAFTING.

There are many styles of grafting but for general use in top working old trees there is none that I have tried that is better than the cleft or split method. Some grafters cut a slit in the top of the stump with a saw and insert the scion in this slit, but I have not found it any better or easier to do than by splitting. The split is made by gently driving the blade of the grafting knife in its full width,

string at top and bottom of the splice to hold the parts together firmly before waxing. Both these methods are for grafting done before the bark begins to peel.

BARK GRAFTING.

Late in the spring, after the bark begins to peel other grafting methods than those mentioned should be used. One of the best is what is commonly called bark grafting. The stump is cut exactly as for the cleft method but the wood is not split, the bark only being slit with a knife on the top of the stump. The scion is sharpened entirely from one side to a long, slim point. This is pushed downwards under the bark where the slit was made, so that the cambiums of both stock and scion are brought in contact, as is shown in Fig. 2. It will be necessary to bind over all with a string and then wax the entire wound or cover with waxed cloth.

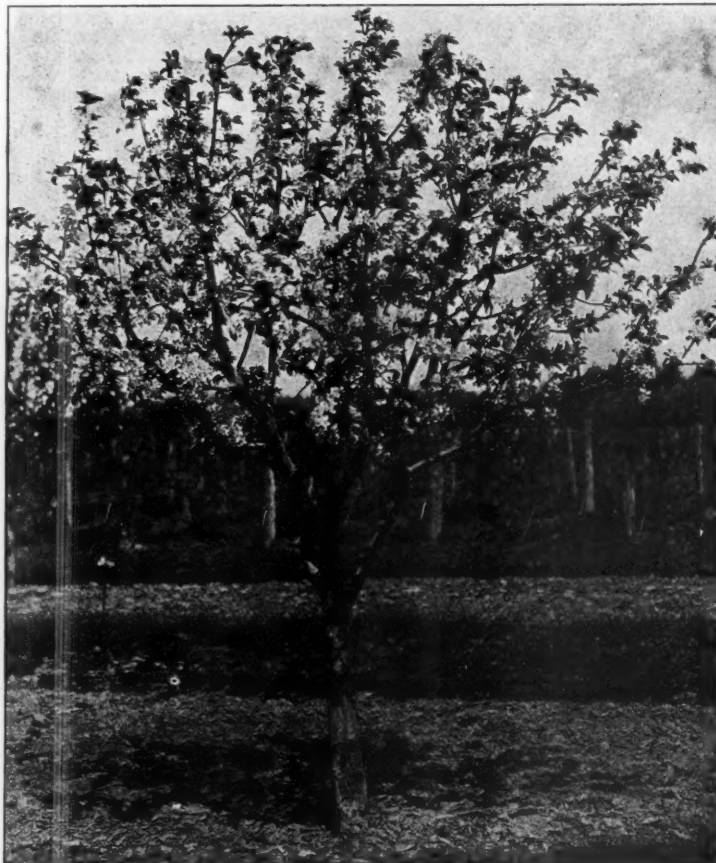
In case of this late grafting it is necessary to have the scions kept in a dormant condition and this can be easily done by packing them in damp moss or other soft material and bedding the package in the sawdust of an ice house or by burying in the ground on the north side of a building. If the scions are kept cool and moist, grafting can be done after the trees are in full leaf.

WAXING.

If the waxing is not well done there

about the same soil and location as the trees from which they sprouted and have good tops and always bud and often bloom heavily, but do not bear a full crop as they either blight after blooming or turn yellow and drop off when about the size of a cherry seed. What fruit comes to maturity is satisfactory. The location is about ten feet above a creek bottom. Is the fault in their being sprout trees or is the weather conditions to blame and will the sprouts spoken of be as good as budded trees to set in orchard? The trees which the twelve-year-olds came from are mostly dead, although satisfactory in their time, and I have a poor chance for comparison. How cold does it have to get to kill peach trees?—E. V. Heller, Ind.

Reply:—The sprouts from the cherry trees mentioned will be true to name and bear as well as if they were budded on nursery stocks. I have tried this plan of growing the Early Richmond cherry and like it, for the trees do well on their own roots. The failure to bear well is not due to any defect of the trees from being on their own roots. It may come from lack of pollination, although this variety is not considered self-sterile. There should be plenty of trees not far distant and other varieties of the cherry that there may be all possible opportunities for cross-pollination, it is nearly always helpful. Cool and rainy weather at blooming time is always apt to cause a poor setting of fruit.



Here we have a thrifty and well shaped young apple tree. The only criticism we have to make is that it is headed too high.

Green's Fruit Grower.—Having last year purchased a New Hampshire farm with the intention of raising some fruit in the future, I last spring set out some sixty apple trees. Some time during the early fall I found that deer had been at work in the young orchard, having stripped the bark on the main stalks of about one-half of the young trees, in some instances having stripped it entirely around the stalk, the stalk being chewed to the extent of breaking down. Is there anything I can do in the way of protection other than fencing? It is not my thought to spray with poison to injure the deer, but simply to produce a flavor that will prove distasteful to the deer, and possibly taking the place of some of the regular sprays. I also find that in some few of the young trees there are brown tail moth nests, being located at the point where the tree has been headed. If these are to be treated in the regular way—namely, cutting off and burning—it will necessitate cutting off the whole head of the tree. As this would put the trees back a year or two, I am inquiring for some other method of destroying the moth.

Any help that you can give me on these two points will be greatly appreciated.—F. A. Colburn, Mass.

Reply:—The deer nuisance is a bad one to handle. Fencing would be costly but it is, perhaps the cheapest plan. A coating of lime-sulphur wash may keep the deer from eating the bark. Rubbing with fresh liver will act as a preventive to rabbits and I think it would be the same with deer. But they usually like to eat the twigs and I would suggest spraying the entire tree with the lime-sulphur, which will also be a good thing to kill scale and fungi. The liver coating should be tried next. Gathering and burning this brown tail moth egg nests is the safest way to fight that pest.

Prof. H. E. Van Deman:—I have an apple orchard of six acres, 15 rows, 27 trees in row, 25 feet apart, the trees are 14 years old. The land is about two feet higher in center and has fall toward both ends. I have been cultivating the trees, and I intend to sow it to clover. How can I best do it? The land is of clay gravel, I would like to tile it. Would you prefer a 3, 3½ or 4 inch tile in every row lengthwise, and then level the ground off. Will the apple tree roots fill the tile.—John A. Carsten, O.

Reply:—It would be best to put in 4 inch tile drains and as deep as 3 feet. The lines should be in the middle of the space between the trees. The apple tree roots will not disturb the tiling much, but as a prevention it is well to lay two thicknesses of tarred paper over each joint, which I have heard will keep the roots from entering at the joints. I have never tried this plan but believe it will be considerable benefit at least. The seeding to clover should be done about April, after first putting the soil in fine condition.

Will shell bark hickory produce a like nut if grown from seed?—Anthony Harvey, Md.

Reply:—No, they will vary considerably, but the nuts on the young trees are likely to be reasonably like the originals. The only way to get nuts exactly like the originals is by grafting with scions from the old tree.

Editor Green's Fruit Grower.—(1) Are sucker plants of the raspberry and blackberry as good as those grown from root

being careful to have the blade lower on the side where the scion is to stand, so it will cut a smooth place for the scion to fit and not tear open a rough place by splitting ahead of the edge.

Another point in which I do differently from many grafters is, in never setting but one scion in a stub. Two or more causes forks to form and they are usually not needed. One scion on the top of a sloping stub, as shown in the drawing, is sufficient and will heal over quickly and make a smooth and solid union.

The scion should be about three inches long and trimmed on both sides with long, straight cut, making a wedge that is a little thicker on one edge than the other, and an inch or more in length. There should be a bud a little below the top of the thick edge of the wedge. With the sharpened point of the grafting knife the split stump is pried open and the scion inserted nearly to the top of the wedge, the bud on it being set a little below the top of the stump and the inner edge of the bark carefully matched. In case of accident this bud may be the only one left to make the growth. The spring of the wood of all stumps an inch and over in diameter will hold the scion firmly in place without tying. For smaller stocks the tongue method of grafting should be used. This is done by cutting a long slope at the top of the stock and a similar one at the butt of the scion, with a slit, making a tongue in each and by pushing these together a very well fitted splice is easily made. This requires tying with a

is no use to do the grafting, for the scions will not grow. Evaporation must be prevented by a complete covering of wax or waxed cloth. It is far better to have another person to do this part of the work than the grafter, because his hands should not be daubed with the wax and grease that is necessary to be handled; and a smart boy can do it as well as anyone, causing little expense. The coat of wax should not be thick but it should be very complete. A lump of tallow is needed to rub on the hands to keep the wax from sticking to them. A smart waxer can cover more than one person can graft. I have had one man saw off the branches and do the waxing for me as fast as I could put in the scions.

AFTER CARE.

Watch the grafts after they begin to grow and rub off all sprouts from the stumps. They will rob the grafts of the nourishment they should have. Grafts are sometimes allowed to fail or grow very feebly from this cause.

H. E. Van Deman.

Answers to Inquiries.

Prof. H. E. Van Deman.—Dear sir: I have a quantity of cherry sprouts which I am thinking about setting out that came up about some twelve year old cherry trees of the Early Richmond variety, which were also sprouts from trees purchased of a nurseryman. The twelve-year-old trees mentioned have

cutting Show t Menag orthog thing hybrid how cro F. L. C Reply kinds of gated f severely well. tings a than su to grow (2) I that is high an with ou (3) I the sta flower muslin delicat few day a sticky the fru The resu

Editor: the you time sui 2. No ing bla How wo nection! 3. W fillers in J. H. M Reply the pre planting plump, t monly u 2. Sa for berry heat in injure t already would d more co manure 3. Ne an appl more ran the appl of much a culture a

Mr. C. years ag ease, the limbs loc insects, t blisters blisters scabs wo dead spo blisters? it seems h Pa. Reply: cankers branches of this co to cut off as possibl thick, p will not usually w growth of the diseas wood. If t they shou

H. E. V some trou my peach you tell I have only bothered, before the planted la the trees t black bug they had the trees, seemed to holes run under the James H. Reply: from Euro now quite It is calle by sciente borer?" be makes in t lays the e eighth of a under the small burr often kills affected th cherry an fruit trees damage is trunk and on the twi more readi pal means and manu growth. T fire of bad branches a

cuttings? (2) At the New England Fruit Show the largest apple exhibited was the Menagere. (I am not sure about the orthography). Can you tell me anything about this apple? (3) How is hybridizing accomplished? For instance, how cross one strawberry with another?—F. L. C., State Farm, Mass.

Reply:—(1) The red raspberries and all kinds of blackberries are usually propagated from suckers. If they are cut back severely at planting, they usually grow well. Plants grown from short root cuttings are thought by some to be better than suckers, but I have not found them to grow any better.

(2) Menagere is an apple from Europe that is rarely grown, but its quality is not high and is of no special value compared with our good varieties.

(3) Plants are crossed by cutting off the stamens (male organs) before the flower opens, enclosing the whole in a muslin bag and applying pollen with a delicate brush from another variety a few days later and when the pistils are in a sticky and receptive condition. When the fruit has set the bag is removed. The resulting seed will be crossed.

Editor Green's Fruit Grower.—1. Are the young limbs cut from trees at planting time suitable to use for grafts?

2. Notice that all directions for raising blackberries call for a heavy mulch. How would sawdust be used in this connection?

3. Would plum trees be good to use for fillers in an apple orchard just set out?—J. H. Massey, Conn.

Reply:—1. If the young branches of the previous year's growth cut off at planting time are a foot or more long and plump, they are just such as are commonly used for grafting.

2. Sawdust is not a very good mulch for berry bushes of any kind. It is apt to heat in fermenting, if fresh, and thus injure the plants. If it is old and has already gone through the ferment it would do fairly well but would usually be more costly than coarse straw with some manure in it and not half so valuable.

3. Never set plum or peach trees in an apple orchard as fillers. They are more rampant growers and finally injure the apple trees if left long enough to be of much service. They also need different culture and spraying.

Mr. C. A. Green:—I noticed about two years ago this tree had some kind of disease, the bark on the trunk and large limbs look as if they had been stung by insects, the bark seemed to be full of small blisters in the spring and by fall these blisters would get loose and the little scabs would come off, leaving a small dead spot. The trunk is full of such dead spots. What is the cause of these blisters? and what shall I do with the tree? It seems healthy otherways.—W. F. Davis, Pa.

Reply:—This trouble is one of the cankers that affect the trunks and branches of apple trees in many parts of this country. The way to fight it is to cut off every appearance of it as deeply as possible and smear these places with thick, pasty Bordeaux mixture. This will not always prove effectual, but it usually will do so by killing any young growth of spores that may develop from the disease that may be left in the bark or wood. If the cankers are on small branches they should be cut off and burned.

H. E. Van Deman:—I have been having some trouble with the grubs destroying my peach trees, and would like to have you tell me what to do with them. I have only a few trees that they have bothered, but want a remedy for them before they get started in the trees I planted last spring. I notice on some of the trees they killed last summer, a little black bug, a little larger than a pin head, they had holes all through the stalk of the trees, and out the small limbs, there seemed to be hundreds of them. The holes run just inside the bark, then along under the bark for an inch or two.—James H. McEwen, Pa.

Reply:—This insect is one that came from Europe about forty years ago, and is now quite common in the Eastern States. It is called the "Fruit-tree Bark-beetle" by scientists and is also known as "Shot-borer" because of the small holes it makes in the outer bark. The beetle that lays the eggs is black and less than one-eighth of an inch long. The larva works under the bark mostly and makes many small burrows that do great damage and often kills the trees. Plum trees are affected the worst of all, but peach, cherry and apple, pear and nearly all fruit trees are also badly affected. The damage is worse on the sunny side of the trunk and main branches, but also works on the twigs. The weaker the tree the more readily they affect it and the principal means of fighting it is by good tillage and manuring to stimulate rigorous growth. This and the destruction by fire of badly affected trees and all dead branches as soon as seen are the only

practical remedies of consequence. Digging them out is useless because of their small size and abundance. Coating with thick washes of soap and fish oil in early spring prevents the laying of eggs in some degree.

Green's Fruit Grower:—How can I rid my peach orchard of ants? The ground is full and they crawl upon the trees. I cultivate it every week, during the fore part of summer.—H. D., Pa.

Reply:—Ants may be killed by breaking up their nests or breeding places. There are two remedies used for this purpose. A solution of Cyanide of potassium in water and bisulfide of carbon. They are both deadly poisons that make gasses that are destructive to all life. By producing a hole in the nest and pouring in a portion, then covering it with earth the gas will permeate the soil and kill every ant it reaches.

Mr. Charles A. Green:—How will these three varieties of apples do in the nursery as root grafts. Jonathan, York Imperial and Rome Beauty?

Will they make as good growth as Stayman, Black Twig and Stark? If all of them won't, which of them will?—I. L. W., Md.

Reply: All of the varieties mentioned are suitable for root grafted trees. Indeed, there are very few varieties of the apple that are not suitable for growing in this way.

Green's Fruit Grower:—We all know the value of wood-ashes as a fertilizer, they contain from 12 to 14 per cent. of potash. I know this for I have had them analyzed. Now after the potash is gone

A plate of Banana Apples grown by one of our subscribers, A. H. Hill of Fairport, New York. The tree is only six years old and the apples are of unusual size. In fact they are larger and better than any Banana apples we have seen at the great fruit shows. He picked five and one half bushels from this young tree and many more were blown off by the wind.



they are of no more value than sand. In this part of Illinois wood is scarce and everyone burns coal which burns from 10 to 12 per cent. ashes, making huge piles every winter. I always sift my ashes to save the coal, putting the fine ashes in one pile and the clinkers in another. Now if I put 12 or 14 per cent. of concentrated lye in these fine ashes why is this not the same thing as wood-ashes? We all know lye is potash as it is made from ashes. If this will work out we can all have fertilizer cheap, as 10 cents worth of lye will go a good ways.—A. J. Saxe, Ill.

Reply: Coal ashes with the cinders sifted out have a very good effect on a dry soil by making it more porous, but it has almost no value as a manure. If potash was added to the sifted ashes in sufficient proportion to make the analysis as good hardwood ashes it would not then be of the same value because there is a considerable quantity of phosphorus in wood ashes and also a lot of lime. Both of the latter are plant foods that are not found in coal ashes in any appreciable quantities. But worst of all is the fact that concentrated potash or lye costs from 8 to 10 cents per pound which is far more than it would cost in the German potash salts, such as muriate and sulphate of potash. These commercial fertilizers may be bought for almost \$40 per ton and contain about 50 per cent. of potash, which makes it cost about 4 cents per pound. It would not pay to buy potash at more than twice this price and then have the trouble to mix it with coal ashes.

Mr. Green:—Since childhood I have been a reader of your paper, as I came to young girlhood my parents moved from the farm and I mingled with village and city throngs for educational and later business purposes, but my thoughts turn longingly to the dear old farm which my parents still own. I have been thinking of setting out a nut grove there. Please advise me as to what kind of nut trees would thrive best. The farm is situated in the central part of Rhode Island, ten miles from Narragansett Bay, the land is low and frosty and has a light sandy soil. How long would it take the trees to come into bearing?

I own a summer residence at the beach and am looking for some kind of trees that will grow there and produce shade quickly. Will the catalpa answer my purpose? Also would they do well on the farm above mentioned?—L. M. S., R. I.

Reply: In a location in Rhode Island where the land lies low and is frosty and the soil is light and sandy and perhaps poor there are few if any kinds of nut trees that would flourish. Chestnut trees might do well there if it was not for the fungus disease that affects them. Possibly they were natural there and may now be growing on the land, if not dead from the blight. The shellbark hickory might grow well there if the soil was enriched. They would not bear for from ten to fifteen years from planting and unless the land was made rich, not that soon. Walnuts would not be suitable. I do not think it a suitable place for a nut orchard. Nor would the Catalpa do well there, for it only flourishes in a warmer climate and in rich soil. Maples, birches and elms are far more likely to make good shade trees.

Greens Fruit Grower:—Is lime beneficial in old orchards? Is not quicklime preferable to marl or ground limestone at the same prices? Would it pay to lime your clover so that you could plow more of it under?—L. R. Tatum, Pa.

Reply: Yes, it will usually pay to apply lime to the soil of almost any orchard in Pennsylvania, unless it be in regions where lime is naturally abundant in the soil. I would never use unburnt limestone to the soil because it would cost as much or more to handle than burnt lime and it would be very slow in its action. I have heard it said that ground oyster

nursery trees and it would not be safe to plant sprouts from such trees.

Green's Fruit Grower:—I have about fifteen plum trees about four or five years old that are thrifty trees and have borne good crops of fruit but of very poor quality. Would you advise me to graft them or cut them out and set new trees? Also I have some black currants that are exceptionally good bushes but fruit is so poor we can not use it in any form that we know about. Could these be grafted satisfactorily?—W. P. Sanborn, N. H.

Reply: It would surely be well to top-graft the plum trees to some one or more really good varieties. This will cost something in time, trouble and cash but the new tops would soon begin to bear. The Monarch and Grand Duke are good varieties for both home and market purposes.

There is a market for black currants but it is limited. They are much liked by English people in particular and are usually made into jams and jellies. If there is no profitable market for the fruit it would be wise to dig out the bushes and plant other kinds. While they might be grafted I do not think this would pay, for the tops need renewing occasionally from new shoots from the base. However, a few grafts might be tried. They would bear very soon.

Green's Fruit Grower:—Can I graft Bartlett pears on the Kieffer trees? I understand or rather have been told by several people that Bartlett would not do on Kieffer trees. Did you have any experience along the above line?—Soloman Shearer, Pa.

Reply: There would be little use to graft over the Kieffer trees to Bartlett or any other of our really good pears, because the union is not permanently satisfactory.

Fido's Mistress (sobbing)—I've lost my dog, my sweet, little innocent pet! Friend—I'm so sorry. Have you put an advertisement in the newspaper?

Fido's Mistress—Oh, what would be the use? The poor darling doesn't know how to read.—Woman's Home Companion.

THE DOCTOR HABIT.

And How She Overcame it.

When well selected food has helped the honest physician place his patient in sturdy health and free from the "doctor habit" it is a source of satisfaction to all parties. A Chicago woman says:

"We have not had a doctor in the house during all the 5 years that we have been using Grape-Nuts food. Before we began, however, we had 'the doctor habit' and scarcely a week went by without a call on our physician.

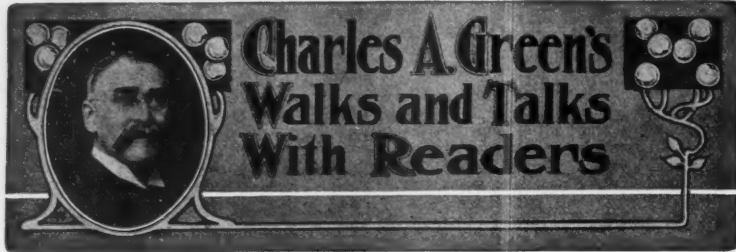
"When our youngest boy arrived, 5 years ago, I was very much run down and nervous, suffering from indigestion and almost continuous headaches. I was not able to attend to my ordinary domestic duties and was so nervous that I could scarcely control myself. Under advice I took to Grape-Nuts.

"I am now, and have been ever since we began to use Grape-Nuts food, able to do all my own work. The dyspepsia, headaches, nervousness and rheumatism which used to drive me fairly wild, have entirely disappeared.

"My husband finds that in the night work in which he is engaged, Grape-Nuts food supplies him the most wholesome, strengthening and satisfying lunch he ever took with him." Name given by Postum Co., Battle Creek, Mich.

Read the little book, "The Road to Wellville," in pkgs. "There's a reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.



"No one really fails who does his level best."—Anon.

ROCHESTER, N. Y., MARCH, 1912

Friend Wilcox, the bright California editor, says that the holidays are almost as worrying and as wearing as a summer vacation.

Salt for Fruit Trees.—We have a letter from Prof. T. J. Burrill, Botanist of the experiment station at Urbana, Illinois, which says, "I should strongly advise you not to apply salt to the soil around fruit trees. Salt is often recommended, but all the best experiments show that it does injury rather than good."

C. A. Green's Reply: You can graft improved varieties on any apple tree. In selecting a variety to be grafted it is well to select a vigorous grower if the variety grafted into it is a vigorous grower, therefore for the Northern Spy select such strong growers as Baldwin, Greening or Ben Davis. Newtown Pippin would not require such a vigorous variety as Spy. Those who are grafting usually pay no attention to the variety upon which they insert their grafts.

"He Shall Wipe Away All Tears."—While it is best to dwell upon the bright and joyous things of life, of which there are many, it is well at certain seasons to consider the fact that the moment we are born we begin to die, and that the inheritance of every creature is death. Thus in one sense this earth is a vale of tears. John, the beloved disciple, says that there is one who will wipe away all tears. This is a great promise or prophecy. We know of no earthly friend, no physician, no hypnotic influence, which will wipe away all tears.

Worshipping The Sun.—I am not surprised that millions of men and women worship the sun for it is from the sun that we receive almost everything pertaining to our physical welfare. Remove the sun for an instant and every creature on the earth would freeze solid. Take away the rays of the sun and there would be no fruit, grain or vegetables upon the earth. It is to the action of the sun that we owe our vast accumulations of coal which run our factories and heat our homes. Without the sun, water would not evaporate and be carried over the earth in beautiful clouds to be thrown back again upon the earth in refreshing showers.

Keep Your Eye On It.—Do you know that a plant, vine or tree will grow faster if you keep your eye on it? This result is not brought about by any magical effect of the eye, but by the fact that if we keep our eyes on the growing things we will keep our mind on them, we will be conscious of their needs and will be exercising with our hoe, pruning knife, horse cultivator or spray pump. We are apt to lose interest in things we do not see often. I cannot imagine a successful orchard or berry field that has been partly forgotten. The first year that I spent on Green's Fruit Farm I remember going to the window each morning to see how much growth the trees and plants had made over night. I kept my eyes constantly on the orchard, the vineyard and on the berry patches. In return for this constant attention the plants, vines and trees gave me bountiful crops.

Good Luck.—Is there such a thing as good luck in the business affairs and other affairs of men on earth? Yes, but in 99 cases out of 100 the success that has been attributed to good luck has come from earnest and intelligent effort, that is from work and from a faculty for success in some particular line of human industry. Young men viewing the work and struggles of successful men are apt to say: "How lucky these men were," whereas in nearly every instance luck has had but little to do with the success of these men.

Is there such a thing as bad luck? Yes, but in 99 cases out of 100 where failure is attributed to bad luck it is caused by bad management. Management is almost everything in earthly affairs. Everything has to be managed. Our homes, the churches, streets, parks, public institutions, stores, railroads, governments, everything must be managed, and whether they are successes or failures depends upon management and not upon good luck or bad luck.

How To Keep Young.—We must be active in order to keep young. The aged man or woman who gives up work, exercise and other forms of activity and passes the days and years in the easiest way, reclining on soft couches or in easy chairs before the fireplace, must of necessity grow old rapidly. The active individual, playing golf, walking several miles each day, or spending much time in hunting and fishing, ages less rapidly. Further than being active we must become deeply interested in something, must have a hobby in order to retain youth, remembering that youthfulness depends upon the feelings, on the state of mind, on imagination, as much as upon the passing of time. If you would continue to be young become enthused over beautiful objects such as works of art or natural scenery or both. Teach yourself to love music and to appreciate it. Read beautiful thoughts. Think of beautiful things and do not make a drudgery of life. Many a mother relinquishes the bright things to her daughters. The young people absorb the pleasure of life, which the mother should participate in fully, leaving the mother so closely confined to household work as to cause her to age rapidly.



A Winter's Scene at Green's Fruit Farm. George Stowe, the man with the gun, is a valiant hunter out after rabbits, which are not welcome guests on a fruit farm.

Reply to J. M. Lontz: I advise you not to spend time or money in trying to move a bearing hickory nut tree. Nut trees are more difficult in transplanting than most other trees. I would not transplant any nut tree unless it were a very small tree.

A Kentucky Orchard.

Editor Green's Fruit Grower:—I have been a reader of your journal for some time and had I been a reader of it before I set my first fruit trees I would not have made the serious blunder of planting trees unsuited to this country. I got them from your city. They were Baldwin, Fameuse, Northern Spy, H. Nonesuch and several others but not a reliable winter apple in the lot for this climate. This was in 1857. All are gone except the Baldwins. Several of them are bearing yet but they ripen here in September. I have since planted 50 acres now bearing from 1 to 3 barrels to the tree as fine apples as grow anywhere as I have taken them to Washington twice, and while theirs look as fine they were not equal to mine in color and no comparison in flavor, and a man who follows the business, who said he had been over four states, Colorado included, said my apples were the best colored and finest he had seen. The leading varieties are Winesap, Mammoth Black Twig or Paragon, Missouri Pippin, Jonathan, Grimes Golden, Rome Beauty, York Imperial, and many others for summer and fall. For an early apple I think the Yellow Transparent leads, though I have a small May apple some earlier, but I ship apples and peaches both, from June 8th to 10th.

I also have a June peach orchard. I sold a lot of Elbertas to a Mr. Dickens to be shipped to Buffalo, N. Y., a few

years since. He stated they were the finest he had found though he had been in a number of states. My orchard is on Green River (the finest stream on the continent) on a bend 300 feet above the water, hence above the effects of late frost, so I have peach trees that have been bearing over 40 years and only missed twice. Now while I read of men valuing orchards at \$1,000 per acre, hundreds of miles from market, we are close to the center of population with cheap freights but this is a tobacco country that has never been boomed but has been injured by exaggerated reports of feuds and nightriding, but a man is as safe here as any place if he attends to his own business, as I have tried it over 80 years. If anyone wishes to engage in fruit raising they can get land for from \$20 to \$50 per acre and a great deal of it will raise \$100 worth of tobacco to the acre between the apple trees cash crop. Land owners are getting from \$30 to \$40 an acre rent this year, taking about one-third as much as they sell it for a few miles from town.—W. H. Harden, Ky.

I take much interest in reading Green's Fruit Grower because of the valuable information it contains.

Seeing the picture of a remarkable apple tree in the December issue of the Fruit Grower gave me the impetus for sending the picture of cherries.—Edgar W. Roberts, Washington.

Whitewash for Fruit Trees.

C. A. Green's Reply to H. S. Fowler, Ohio: For many years past fruit trees have been whitewashed and many articles combined with the whitewash. The opinion of experts has been that the whitewashing of the trunks of trees as applied years ago has not been of much benefit. I have not used potash in connection with whitewash and do not know that it would be helpful.

I assume that gas tar is the same as coal tar. I do not favor applying any tar

it was not known that peaches would thrive, and have produced such marvelous results in beautiful specimens of peaches and in such abundance as to lead to the opening of new orchard sections where it was not previously known that orcharding would be profitable. The same has been true in regard to little apple trees about one foot high, which Green's Fruit Grower has sent out as premiums and which have done much to beautify and make attractive farm homes where orcharding or fruit growing of any kind had not previously been thought of.

Reply to F. T., Mass.: No one is familiar with any entire state, therefore no person can inform you in regard to a piece of land they have not seen and you have not seen. Do not buy anything until you see it and examine it critically and make inquiries widely in the neighborhood. Even then you are likely to be fooled on the land. Men who have bought land without seeing it have found the land lying in a swamp or entirely under water.

If you do not know all about the various farms of Massachusetts so that you could advise a buyer in regard to any farm in Massachusetts without the buyer's seeing it, how can you expect that our associate editor, H. E. Van Deman, or myself, can post you about particular farms in Florida?

That Dwarf Pear Hedge.

There are many things about fruit growing that are but little known. One of these is that fruit trees can be planted 2 to 3 feet apart in the row through the garden or even closer together with remarkable results in the way of fruit production.

I was taught this fact by seeing apples and pears, especially dwarf pear trees, bearing fruit abundantly in the nursery rows, where the trees stood only 6 inches apart, and where there were other rows within three and a half feet on either side.

I went through a nursery this past fall where the trees 3 to 4 years old stood closely in the rows bore the most beautiful specimens of Duchess apple that I have seen in years. But dwarf pear trees are the ones that thrive best in this close planting in a single row across the garden bearing soonest and most abundantly.

Six years ago I planted a row of dwarf pears across my garden each tree being two to three feet apart in the row. There was no other row of trees near this, the garden being occupied with flowers, vegetables and strawberries. These pear trees began to bear the second and third year and have borne marvelously every year with the exception of occasionally here and there a tree which skipped that year. The trees are Duchess, Bartlett, Seckel, Howell, Lawrence. Each year I cut back the tops of these trees with the Levin Grape Pruner, cutting back the present growth more than one half and thinning out the superfluous branches, thus keeping the trees low headed. Had I not cut back the branches the trees would have been 10 feet high whereas now they are only 5 feet high.

I have secured the most beautiful specimens of pears on these trees and fruit of large size free from blemish. The pear trees this day do not seem crowded in the row. This row of dwarf pear trees occupies scarcely any space in the garden and does not interfere with plowing.

Once planted on a city lot where the line fence should stand at both sides of the rear of the lot across the rear end, a hedge row of peach trees and dwarf pears, the trees being set two feet apart, more with the idea of thus building a cheap fence than thus getting fruit. These trees have thrived immensely without any cultivation and have borne fruit abundantly. I was so far encouraged with this experiment as to be induced to treat this year several other city lots on which new buildings had been erected in the same manner planting apple trees in place of peaches and pears.

I call such planting hedging but, they are not like a hedge as the branches do not intermingle seriously, but the trees form an obstruction and in fact make a cheap fence. Consider how beautiful these trees are in leaf, in blossom and in fruit, and consider the abundance of fruit which can be thus produced on a lot not over 100 feet deep and 40 feet wide.

A similar line fence could be formed by planting grape vines, having them trail on a wire fence or on a single wire around the border of a city or village lot. I am confident that not one person in a thousand appreciate the amount of fruit which can be produced on a small city or village lot.

The Pollination of Fruit Blossoms.—Mr. Rudolph Loomis of Michigan asks Green's Fruit Grower to state what varieties of apples are good pollinizers of the blossoms of a long list of apples, also of a list of peaches and of pears. In reply I will say that I do not know of any person who could answer this question definitely.

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If you were to ask this question of an experiment station the reply would probably be something like this: "We know of varieties of apples and of peach and of pear and of grape that are strong pollinizers, that is strong in pollen, and we know of varieties that are weak in pollen. We advise that you plant an occasional tree or vine of a strong pollinizer among the weak pollinizers," the stationman might go a little farther than this with specific advice, but not very much.

Protecting Strawberry Plants from Spring Frosts.

Mr. T. W. Campbell of Illinois asks for information on this subject.

C. A. Green's Reply: Any method that will protect fruit trees from late spring frosts will have a similar effect on plants of strawberry. In the western states, fire pots are filled with crude petroleum or kerosene and by this method of flame and smoke, large areas of orchard are protected from late spring frosts which occur when the trees are in bloom. In the eastern states smudges have been made of dry brush covered with wet straw placed at convenient distances through the field and set on fire at the moment when the thermometer indicates that the frost is impending, which usually occurs at two or three o'clock in the morning. The cheapest method is to plant the fruits on hilltops or hill sides. Fruits thus situated will escape spring frosts which ruin every blossom in the valley below. It is desirable to create as much smoke as possible when building fires to ward off frosts.

Going Home.

Man is not the only creature who has a strong desire to return to the scenes of his boyhood or to his birthplace. Fishes, dogs, cows, horses and other animals have the same instinct in a greater or less degree.

"I am going back to the old homestead, to the old village which I left thirty years ago. I am going back to hear the old band play, to see Bill Jones, Sammy Perkins and Jimmy Jones. I know just how the old farm houses look that line the way from the village to the place where I was born. I remember the people who lived in those houses and in the surrounding houses for miles on every side. I am going to see those good people. I am going to the church and shake hands with a lot of my old companions." This is what the man says when he is going home to the scenes of his childhood.

Alas, what a disappointment is in store for this aged man. On arriving at his native village he sees no one but strangers. A strange man is owner of the village store, a stranger runs the hotel, a strange preacher is in the church. He wanders up the roadway leading to the old farm where he has spent so many happy days as a child, but he finds that every house is occupied by strangers. On inquiry he finds that the neighboring farms in every direction are no longer peopled by the friends he used to associate with so pleasantly thirty or forty years ago.

Where is the old band of musicians that he used to play with? Where are his old schoolmates that he expected to see and to clasp hands with? They are lying in the village churchyard.

The home-comer does not realize that he is an old man. Nobody realizes how age is creeping on and how rapidly the time is passing. He thinks of his old associates as boys and girls and of others as in middle age, while in fact these people are white-haired old men or women, and the most of them have passed from the earth.

There are a few things that the home-comer recognizes, such as the brook, the river, the hills, but these seem much smaller than they did in the years gone by. If he goes out into the woodlands, he finds them changed but little, and can recognize the old oaks, which are standing just the same as they were when he was a child.

Risking Life for Money.

During the recent burning in New York City of the Equitable Insurance Building on Broadway, the custodians of wealth rushed into the burning building, risking life in order to save money or valuables. Several men lost their lives in an attempt to save money or valuables.

Is wealth so valuable that we are warranted in risking our lives in order to save it from destruction? We need not be told that wealth is of value, for we see people struggling for it on every side, many willing to risk their soul's salvation in securing wealth, or willing to risk health for that purpose. But wealth is valuable only for the good it will do, or for the comforts it will bring, or for what it can do to sustain health and happiness. I can see why men will risk their lives in saving human life or even sometimes in saving the life of a favorite horse, but it seems like folly to risk human life simply to save money or its equivalent. Probably those who rush into great danger to save wealth do not stop to take a second

thought, or to weigh up the question as you and I are trying to weigh it now. Their lives have been devoted to the protection of property and their first thought when the property is in danger is to make every effort possible to safeguard it.

When Cultivation is Necessary in Fruit Growing.—While I favor the cultivation of all kinds of orchards, vineyards, and berry fields, there are some kinds of hardy fruits which demand cultivation more than others. Peach trees will not thrive in orchards as a rule unless planted in cultivated soil, and unless the trees are cultivated every year from early spring to August 1st. The strawberry and raspberry must have cultivated soil. The standard pear, apple and cherry will succeed fairly well, and I have known them to do remarkably well in sod ground, but I do not advise leaving them long in sod. The blackberry and currant will continue to bear for several years in sod, but will not produce anything like such good crops as those in cultivated soil. Many kinds of ornamental trees and ornamental shrubs will succeed on the

hardest blackberry, but if blackberries grow wild in abundance it might not pay you to plant the blackberry. El Dorado is a valuable blackberry for this locality, but I could not recommend it where the thermometer goes much below zero. Cuthbert is the standard old red raspberry and Kansas the standard old black raspberry. Cumberland is a very popular purple berry. There is no better red raspberry than the Syracuse for this state. Where it is possible for the thermometer to go 20° below zero you should plant only the hardiest fruits of all kinds.

I note your application for Green's Fruit Grower and the address you mention. Please send \$1.00 for four year subscription.

With best wishes for your success, I remain Yours very truly,

C. A. Green.

Care of a Prize Winning Orchard.

In reply to your inquiry asking for a description of the orchard shown in photograph at the New England Fruit Show, I



1—Geo. A. Laenn, Tanguy, Pa., and his friends eating strawberries under the shade of an apple tree. These photographs are sent by Mr. Laenn. 1—Here we have a photograph of four Lawrence pears as grown by Mr. Laenn. 3—Also a plate of Anjou pears grown by him. 4—This is a very interesting exhibit consisting of lima beans and honey. 5—Here we have a plate of Winter Nellis pears as grown by Mr. Laenn. Also a picture of his two cats which seem attracted by the pears. No. 6 is a very interesting group of lima bean pods of giant growth, eight inches long.

lawn where the soil is not cultivated. I have seen dwarf pear trees giving large crops of beautiful fruit when they have been standing in sod for twenty years, but I would not advise any person to set out a dwarf pear orchard unless with the expectation of giving the soil thorough cultivation each year, and cutting back the new growth each year at least one-half or more.

Small Fruit Culture.

Reply to E. E. Berry: I know nothing of the St. Regis raspberry. You cannot believe all you hear about the productiveness to new varieties. I do not advise planting largely of any new variety of fruit.

For us Corsican, Dunlap, Glen Mary and Brandywine are the best strawberries, but there are many other good varieties. I would plant these four kinds of strawberry. They are liable to do better if different varieties are planted near each other. If you have not had large experience I would not advise you to plant over an acre of strawberries to begin with instead of ten acres, as you suggest. Zero weather does not affect strawberry plantations if they are covered with snow or if lightly covered with a mulch of straw litter or manure.

There are but few varieties of raspberry which will stand 10 to 20° below zero without winter protection. Snyder is

would say that this orchard was set about twenty-eight years ago, and the tree, 200 were bought for Baldwins but proved to be nearly all Rhode Island Greenings, says J. T. Moore of N. H., in American Cultivator.

There was one Blenheim, one Spy, two Baldwins and all the others in the block are Greenings. They are set forty to the acre in five rows forty rods long, on the east side of the highway, about two rods back from the stone wall—as you see by the photograph there is a row of large maple trees along the wall on the road side.

The plate that took first prize was grown in the shade of those trees—though I would not recommend setting Greening trees in the shade of maple trees as a rule. The red cheeks were evidently caused by something in the soil. There is a ledge that comes up to the surface in places. The apples on trees near where this ledge crops up have finest finish and color, notwithstanding the shade of the maple trees.

Five years ago the land where this orchard stands was cutting about 300 pounds of hay to the acre. Since then no hay has been removed from the orchard—I cultivate between the rows of trees but not very near the trunks, so it might be called a combination of mulch and cultivation—a sod and cultivation—1910 I planted fodder corn between the rows and applied

three hundred pounds fertilizer to the entire orchard. The corn planted in July was about fifteen feet high in places by October.

This year I sowed peas, clover, alfalfa, Dwarf Essex rape, and beans, in strips, to see what would be the effect. The weeds predominated in most of the orchard. The peas and rape seemed to choke out the weeds, and the alfalfa and clover are nice and green at present.

Very little stable manure has been used in the orchard. Rye sown in one strip in 1910 was above the horses backs when we plowed it in June this year. This orchard was a brush heap prior to 1905 and the new growth and large crops of fruit have been produced by plowing in weeds, millet, rye and grass. Two tons of lime and one hundred barrels of saw mill ashes have been applied during past four years and maybe a dozen one horse loads of hen droppings and straw and twenty-five one-horse loads of stable manure.

The orchard has been sprayed past four seasons with Bordeaux and arsenate of lead as soon as convenient after blossoms drop, about June 1 to 10.

A few apples on one tree are affected with scale this year for the first time so it looks like a fight to get rid of this pest now.

Fruits in Japan.

Formerly there was no uniform and methodical system of fruit culture in Japan except for pears, oranges and grapes, but since 1887, when foreign fruit trees were first introduced, the method of culture according to scientific principles has been adopted.

The amount and value of oranges, peaches, plums, persimmons, pears and grapes produced in 1907-'08 reached a surprisingly high figure and large quantities were shipped to the United States, Canada and China.

Pears and peaches, oranges, apples, dates, plums, quinces, pomegranates, apricots (Japanese and foreign), plums, jujube sweet cherries, grapes, figs and gooseberries and walnuts and chestnuts are the fruits and nuts mostly appreciated and eaten in Japan.

The culture of trees of all kinds is divided into two great classes; one the cultivation of plants for export and one for plants for home trade, which latter are of an entirely different class. The art of dwarfing plants is little known in other lands. Pines may be considered as the most important of the trees of Japan.

Generally grown from seed, great care is taken to select the choicest specimens. In the spring of the second year, when the seedlings are about eight inches in height, they are staked with bamboo canes and tied with rice straw, the plants being bent in different desirable shapes. The next autumn they are transplanted to a richer soil and well fertilized.

A TROUBLE MAKER.

Coffee Poison Breeds Variety of Ills.

A California woman who didn't know for twenty years what kept her ill, writes to tell how she won back her health by quitting coffee:

"I am 54 years old," she says, "have used coffee all my life and for 20 years suffered from indigestion and insomnia. Life was a burden and a drag to me all the time, and about once a year my ailments got such hold upon me that I was regularly 'sick in bed' for several weeks each time.

"I was reluctant to conclude that coffee was the cause of my trouble, but I am thankful that I found out the truth.

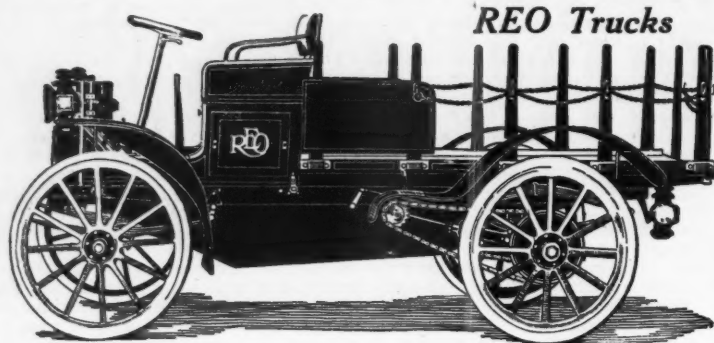
"Then I determined to use Postum exclusively—for a week at first—for I doubted my ability to do without coffee for any length of time. I made the Postum carefully, as directed, and before the week expired had my reward in a perceptible increase in strength and spirits.

"Seeing the good that my short experiment had accomplished, I resolved to continue the use of Postum, cutting out the coffee entirely. This I did for nine months, finding, daily, increased cause for gratification at my steadily improving health. My indigestion gradually left me, my sleep returned, I gained 26 pounds in weight, my color changed from sallow to a fresh, rosy hue and life became a blessing.

"Then I thought I would try coffee again, and did so for a few weeks. The punishment for deserting my good friend, Postum, was a return of my old troubles. "That taught me wisdom, and I am now and shall be all my life hereafter using Postum exclusively and enjoying the benefits it brings me." Name given by Postum Co., Battle Creek, Mich.

"There's a reason," and it is explained in the little book, "The Road to Wellville," in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.



Wheel base, 90 inches—Horsepower, 10 to 12—Length behind seat, 6 feet—Capacity, 1,500 pounds. Front seat top, \$25 extra.

Only \$750

And Built by R. E. Olds

Please mark that price, and note this truck's capacity.

Most trucks which do what this truck does, cost from \$1,200 up.

We are building trucks on a business basis—at a dray-wagon profit.

They are built in a separate

factory, with a capacity of 5,000 trucks per year.

And they are sold through the thousand dealers established on Reo cars.

To pay more than we ask for a truck like this is rewarding inefficiency.

The Famous Designer

It goes without saying that R. E. Olds knows how to build a truck.

The dean of designers, with 25 years of experience. The builder of myriads of pleasure cars. The creator of Reo the Fifth.

Mr. Olds should be—and he doubtless is—the best qualified man in the business.

Mr. Olds' method of perfecting this truck was to put hundreds of them into use.

They were operated in city and country, on hills and plains, in all sorts of business service.

One loaded truck ran from New York to Oregon. Two carried the baggage in the Glidden Tour, from New York to Jacksonville.

These tests have now covered two years. And never has a truck of this size and capacity shown better records in service.

50 Cents a Day

This truck is built so a 12-year-old boy can drive it. There is nothing to get out of order—nothing to do but steer.

It is immensely economical. On a six months' test, covering 4,553 miles and making 3,773 stops, the cost for gasoline, oil and repairs averaged 50 cents per day.

The average of many accurate tests shows the cost of delivery by Reo truck to be 60 per cent. the cost of delivery by horse.

It does five times the work of a one-horse truck, and does it three times as quick.

It is always ready—never gets tired. Nothing can feaze it—heat or cold, rain or snow.

The Reo dealer—right in your town—will demonstrate the truck. He will teach your men to run it. And he is always there to take care of it.

Write us for information.

**R. M. OWEN & CO., General Sales Agents for
REO MOTOR TRUCK CO., Lansing, Mich.**



Price \$750 f. o. b. Factory. Top over all, as shown in cut, \$50 extra.

Top Grafting.

Written for Green's Fruit Grower by Prof. H. E. Van Deman.

It is the time of year to form the plans for top grafting the trees that are not satisfactory. And it is true beyond all doubt that there is scarcely a farm where any fruit trees are grown that there are not some that would be gladly exchanged for some that are better in variety. Some are poor bearers and others that do bear well produce fruit that is not desirable. Trees that are not so old as to be feeble and declining should not be sacrificed by digging them out and they may be made to yield many crops of good fruit, provided they are grafted over to such varieties as are suitable and if the work is done properly and at the right time.

The first requirement is, that the tree be healthy and vigorous. It does not pay to topgraft a tree that is weakly. The scions will not take well nor will they grow well afterwards, should they unite with the stocks.

The next essential is good scions. They must be cut from vigorous trees, such as are making a foot or more of annual growth. Only the wood of the last year's growth is fit for use, and that with large, well developed buds is the kind that is best. If they are damaged by the severity of the winter they are not fit. The sooner they are cut the better after the leaves fall in autumn, but any time during mild weather, up to the time there is danger of the buds swelling will do, provided their vitality is normal. Scions will keep in any damp cool place and they must not be allowed to dry in any degree or to get warm. The latter condition will cause the buds to swell and that will ruin them. In the sawdust of an icehouse is a good place, or buried in the soil where the sun's rays cannot reach them. Various kinds of trees may be grafted but the apple and pear are the easiest of the ordinary fruit trees. Almost any two varieties will grow one upon the other but a very thrifty kind upon a slow grower does not work very well. It is much better to reverse this order. The stone fruits are much harder to graft but they bud very easily. Peach trees are never grafted but cherry, apricot and plum trees are much more easily made to unite in this way. It is better to do the grafting very early on them or else hold the scions in cold storage and do it very late by the bark graft method. See How to "Graft Trees" in this issue elsewhere.

Orchard Spraying.

Last season, there were hundreds of growers who lost their peach crop from rot, which could have been saved by the use of the spray pump. But 90 per cent. of these growers are going to use the spray pump this year. They have been converted, and are no longer skeptical. They saw their neighbors the last season bring their peach crop through the most dangerous weather and market fruit of the finest quality, says Southern Fruit Grower.

Remember these things when purchasing spray pumps: don't think for a moment that the cheapest is the best and most serviceable; don't expect to get the same service out of an inferior machine as would be expected of a first-class apparatus; don't buy an outfit too small for your acreage and then curse the manufacturer because you can't get over your orchard in a few days. But, get a machine commensurate in size to the size of your orchard. Get the best there is. Study the subject of spraying. Find out what it is you are spraying for, and be sure you use the right material. Then, by the use of a spraying calendar you can expect first-class results, otherwise you cannot hope to accomplish much in this undertaking.

Planting Fruit Trees With Dynamite.

Editor Green's Fruit Grower:—I have been a reader of your valuable paper Greens Fruit Grower, for some time, and I am considerably interested in fruit growing. I have a small farm and plant a few trees each year. It will soon be time to plant trees again, and people will be looking up the best methods of planting them. Last spring I experimented some along this line, and perhaps it might interest some of your readers to tell them what I did. The ground that I wanted to put my trees in was a hillside that faced south, and the soil was composed of heavy clay under which lay a kind of soft stone or hardpan, and to dig holes in that kind of ground is very hard labor. As I am employed as shipping clerk in a wholesale grocery, my time for home work is very limited. I did not want to trust the planting of my trees to strangers, so I decided to try digging the holes with dynamite. I went to the hardware store and procured some dynamite, fuse and cartridges. Next I procured an iron bar about four feet long and one and one-quarter in diameter with which to put in the holes, and by using a

maul or steel sledge, I could put in a hole eighteen inches deep in a couple of minutes. Then I would take a stick of dynamite and cut it in three pieces, which would be sufficient for three holes. I would then cut my fuse about twenty inches long insert the end of it in a dynamite cartridge, then take a sharp stick about the size of the cartridge and punch a hole in the dynamite, in this hole push the cartridge and fuse, then with a tamping rod push the dynamite in the ground and fill the hole up with dirt and apply a match to the fuse. The hole is soon dug. Then all you have to do is to take the shovel and throw out some of the loose dirt or broken up clay or hardpan and fill in with good soil. Now plant the tree in the usual manner.

The chief advantage in using dynamite is, that a hole is dug more quickly and it breaks up the hardpan, and loosens the earth for a considerable distance around so that in case of drouth, the loose earth will collect and hold moisture, and it gives the roots a chance to spread more freely.

Out of about twenty-five fruit trees that I set the past spring, which was followed by a severe drouth, I lost only one cherry tree. The balance all grew nicely. If I was going to plant one hundred acres to fruit trees, I would blast every hole.—H. R. Rohr, Buckhamon, W. V.

Reply to H. M. I: In answer to your communication of Feb. 5, enclosing a diagram of your purchase, we think you have the making of a small fruit farm, and judging from your description on diagram we think that near the barn where you had corn and truck last year would be a good place for small fruits, and if you wish to enlarge the present orchard, plant the ground where you had corn last year to the right of the henhouse. The land to wheat on the ground now should be seeded to clover heavily in the spring. This will give you an opportunity to plow it under and make it much richer for any crop that you may wish to plant there, such as small fruits, potatoes or corn.

This little farm is well adapted to the raising of poultry. Ducks would do well on it as you have the creek for them to run in.

It is well to become acquainted with other farmers in your vicinity and consult them about how to make the most out of this little place. The writer would try to purchase a small addition to it and we think one horse with the proper tools could do all the work necessary on it.

If you will read carefully our February and March issues you will be able to know what to do as regards spraying your orchards, pruning, etc.

Fruit Trade Increasing.

According to statistics compiled by the Department of Agriculture, the fruit trade of the United States with foreign countries is increasing every year. Yet in spite of this fact, the imports of fruits exceed the exports in value. For the fiscal year ending June 30, 1911, the value of the fruit imported was over three million dollars greater than the value of the exports. This was mainly due to the imports of bananas, of which almost \$14,500,000 worth were imported during the year. Over a million dollars' worth each of figs, grapes, currants and olives were also imported.

It is something of a surprise to learn from the statistics that in spite of the quantities of apples which this country produces, we imported in the fiscal year 1910-11, 68,954 bushels, most of which were brought from Canada. The grapes imported come almost wholly from Spain, and the amount is increasing but little each year.

The imports of lemons from Sicily have been somewhat affected by the higher duty imposed by the new tariff law. In 1908-09, before the law was in force, 135,183,550 pounds were imported, and in the fiscal year ending June 30, 1910, the imports of lemons were 160,214,785 pounds, but during the last fiscal year the amount dropped to 134,968,924 pounds. The imports of olives also decreased somewhat from the year before.

The duty of 25 cents a bushel upon cherries, quinces, plums, peaches and pears practically prevents all importing of these fruits. Apples constitute the largest item of our exports of fresh fruits, \$3,175,433 worth having been shipped out of the country in 1909-10, and \$5,777,458 worth in 1910-11. Most of these were sent to Great Britain.

The export trade in dried apples has decreased from a value of \$2,339,936 in 1908-09 to \$1,944,209 in 1910-11, while on the other hand the exports of apricots have increased from \$1,512,417 in 1908-09 to \$2,085,437 in 1910-11. Prunes worth \$1,078,210 were exported in 1908-09 and in 1910-11 this amount was more than doubled, reaching a value of \$3,271,971.

Taken altogether, the fruit exports from this country are increasing from year to year. The total amount in 1908-09 was valued at \$16,079,227, 1909-10 at \$18,504,591 and 1910-11 at \$23,893,663.

Leaf Curl on Peach.—Experience in Buying Land That Has Not Been Seen.—Remedy for Leaf Curl.

Written for Green's Fruit Grower.

Having read the article "Iron Shavings for Fruit Trees" in the December Fruit Grower, and noting your request, feel obliged to write you notwithstanding Paul's injunction to the women.

A few years ago we bought a small place in the suburb of a city in Central Connecticut, which was well covered with young trees, pears, cherries, apples and peaches, all in bloom for the first time. We are especially fond of peaches, therefore the twelve thrifty little trees were prized and well cared for, but the next spring they put out very curious leaves, made no growth and had no blossoms. This was an introduction to peach yellows though we did not recognize it, knowing nothing of the disease. However, the superintendent of a large peach orchard who passed our place morning and night stopped in to tell us about it, saying we must destroy the trees as the disease would spread. The man was a stranger and we were ignorant of course in regard to tree knowledge, so thought it best to let the trees stand while we learned more about the trouble and a possible remedy. In the meantime another neighbor, a veritable Good Samaritan, heard about the trees and stopped in one night, as he said: "To look them over and see if I can save them for you." This man's appearance was not such as to inspire confidence, but we saw by the way he talked and worked about the trees that he understood them. When through with his examination he said: "Well, I'll tell you what will save them if they can be saved, but it's a bad case of peach yellows and they may not recover. You get some iron filings and chips at the foundry, dig down close to the roots and spread the iron on, putting not less than one quart to a tree, and double that amount if you can, then cover it, placing the earth as deep as before. If the trees do not improve soon, that is if the little new leaves on the tips of the branches do not come out smooth and good, you had better burn the trees. Your trees all need trimming and I'll come in and tend to them soon. Good-day."

This was our introduction to one of the best neighbors we ever had. We followed his directions and every tree came out all right, and the next spring blossomed and fruited heavily. We sold the place that year but we know that those trees lived and bore large crops longer than peaches usually do, and people around the neighborhood frequently remarked about it.

As an illustration of a subject you have frequently written up, I should like to tell you about the man who proved such a friend in need. Having little money but a strong desire to own his home, he bought a rocky side-hill wood lot, spending every moment possible to clear it, plant trees and vines and small fruit. Much of the land had to be terraced before planting but of course was more attractive when done. While his trees were growing he drilled a well through solid rock, getting a splendid spring of water. Then he turned his attention to the house, building a neat little cottage and then adding to it as he had opportunity. The work was all done by himself except when an extra man was necessary. His fruit both large and small was of excellent quality, for he seemed to know just what each variety needed to make it so. He was a kind husband and father. He became a victim of the California land boomers, mortgaged his cozy little farm to buy land he had never seen, then in high spirits went out to get a place ready for his family, to whom he was most devoted. His disappointment was so great on finding his years of hard work had bought simply a swamp unfit for any use that his reason gave way. He wandered home at last, a mental as well as physical wreck, and never did another day's work. His wife and children have worked since then in a factory and lived in a cheap tenement in a city.

We have so often received benefit from Green's Fruit Grower that we shall be glad if this is of use to anyone.—Mrs. Alfred C. Curtiss, Conn.

C. A. Green's Reply: The man who decided so quickly that your peach trees were attacked with peach yellows was mistaken, for I have never known of peach trees recovering full health after having been attacked with genuine yellows.

The leaves of your peach trees were probably attacked with a fungus disease called curled leaf, which causes the leaves first appearing to look knotty and red and curled. In most instances these curled leaves soon drop from the trees and new leaves appear later on and the trees go on growing throughout the season, but if sprayed with Bordeaux mixture as soon as the curl leaf begins to appear even these first leaves may be retained longer on the tree. The proper treatment is to spray with Bordeaux mixture, or lime sulphur before the buds open in

spring, every part of each bud to be well covered with the spray. I have not known curl leaf to destroy peach trees completely. This disease so far as my experience goes simply retards growth and prevents full productivity, so you will observe that I have no faith in the iron filings. In my opinion the iron filings had nothing to do with the recovery of your trees. If you had omitted applying the iron filings, I suspect that your trees would have recovered full vitality the same as they did after you had applied the iron filings.

Here is evidence that there are many quack doctors who go about the country advising people as to what they shall do with ailing trees, but who actually have but little practical experience. This incident illustrates how necessary it is that information regarding fruit growing should be widely distributed and that there should be some well-known authority in every locality to whom small planters as well as orchardists may go for advice. This incident also illustrates the vast field for useful work which any publication like Green's Fruit Grower has throughout the country and the value of such a publication. Even the information conveyed in this reply in this one issue of Green's Fruit Grower is worth far more than a year's subscription,—yes more than ten year's subscription. If you go to a doctor or a lawyer for advice it is apt to cost you from one dollar to ten dollars, but here is your Editor and his

associate writers ever ready to give you all the information which these people have gathered through an experience of thirty years or more without costing you a penny except for postage stamps. In some instances the Editor is called upon to pay return postage as well as to give the information free, but this is not fair.

We think the lady who has written the above interesting letter exhibits the enthusiasm necessary in order to be a successful fruit grower.

AN OHIO FRUIT GROWER.

Bordering Lake Erie there is a belt of land stretching nearly across Ohio that has great possibilities in fruit. The soil varies in adaptability to crops and the actual area devoted to fruit is relatively small when compared with all the acreage favorably affected by lake influences, but the belt is noted for its fruits and some land is worth \$1,000 an acre, if valuation were based upon net returns. It is not the land, however, so much as the man that determines actual values, says National Stockman and Farmer.

S. L. Hill's Farm.—Near Berlin Heights, in Erie county, Mr. S. L. Hill began planting fruit trees twenty years ago. There was not, and is not, much orcharding near him, and he has been dependent upon his own faith in his land and himself. Now he has 100 acres and probably would be unwilling to sell at \$600 or \$700 an acre. The farm is worth more than that to him.

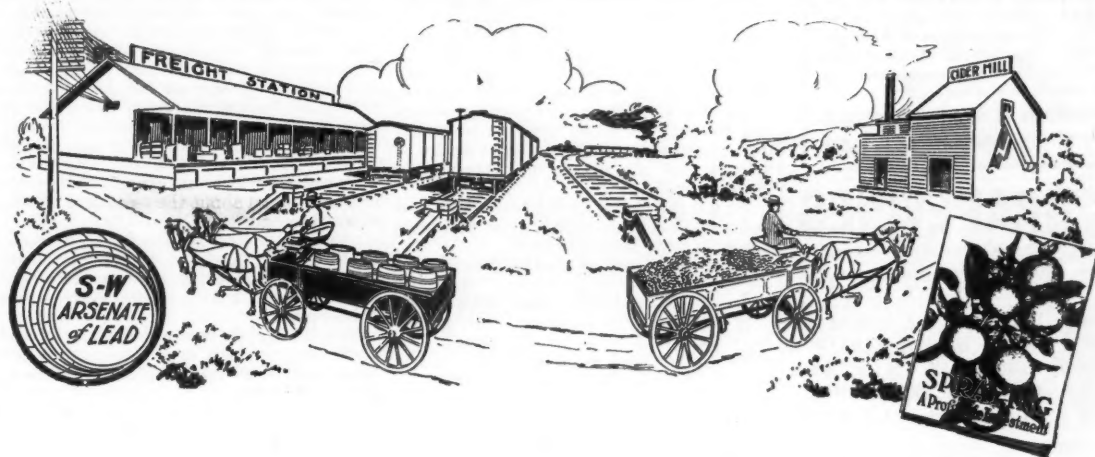
There is much land around him that is producing the staple crops of the state. Some day it will be planted with trees and have its commercial value increased several fold and the results will be due in large degree to the example of this one man.

PEARS, APPLES AND PLUMS.

Pears are money-makers here. Fifty acres are planted with Kieffer, Bartlett, Anjou and Dwarf Duchess. The Kieffer is a leader. The Baldwin apple is planted on 17 acres with the Duchess of Oldenburg as a filler in part. One photograph shows a Duchess nine years old that is well laden with fruit. Mr. Hill does not believe in much pruning of young apple trees until they have been brought into bearing. Some of the apples are mulched and others are given cultivation. The friends of the mulching system in Ohio grow more numerous year by year. Plums bring big returns. Currants and blackberries do finely but the area is not large.

The farm has added a side line, a big flock of Leghorns being cared for on shares by an expert. Eighteen hundred chicks were raised this year.

Mr. Hill has the assistance of his son, E. R. Hill, who took the two-years course in agriculture at Ohio State University, and is an earnest student of horticulture. He is one of a great number of young men throughout the country who believe in country life because they have been educated for it and see the good financial returns that may be secured.



Where do Your Apples Go?

The time has passed when good fruit could be produced with little or no attention given to the growing. Fruits are good or bad, depending largely on the methods of culture and spraying you adopt. If you want fruit fit for the most exacting markets you must spray—and for best results use Sherwin-Williams New Process Arsenate of Lead for combating the codling moth and all other leaf-eating insects.

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In The Young Apple Orchard.

(Concluded from last month.)

The one bad fault that our farmers have in growing the apple orchard is their anxiety to get this one plot down into permanent pasture as soon as possible and thus obviate the tedious labor of working about the trees, and right here is where so many make a very bad mistake in the care of their young orchards.

Twelve years in our orchard of this open method of cultivation has taught us a lesson that even this long or longer is very much too soon to sow the orchard down in permanency.

Our method has been to grow the trees as rapidly as nature and good common sense will admit and have them as healthy and strongly formed as possible before ready to bear their burden of crops.

True we have not had many apples from the trees with this method of intense cultivation, but we have the trees to show for our labors, and are proud of them, and enthusiastically so, for we believe, in fact we know that the time is not far hence when we shall reap good crops of nice fruit from these trees, providence preventing, and insect pests and fungous diseases being quelled by frequent spraying solutions.

We are also well apprised of the fact that an orchard of nice clean, healthy trees, free from knurls and knots, blight and fungi is much easier to keep in condition, and much more can be expected from them than of an orchard that has been allowed to plight its own condition to nature.

The young orchard must be pruned, and intelligently as well as ambitiously.

Pruning should be started right away after planting. Top back all trees to three to five branches as soon as planted, and then cut these branches back to three or four buds. This looks somewhat severe and we thought so at the time of planting out our present orchard, but we know now it was one of the most profitable things we did.

We got our tops started just right, and had a good root growth for the first season with none to heavy tops.

There is little pruning the first season, but that little must be done at the proper time. It takes but a short time to go over several acres of trees, rubbing out limb buds that show to be forming contrary to position or side sprigs on the bodies, which should be immediately removed, and not allowed to form growth.

The second season there is little more to do than the first, save to clip out superfluous growths, and cut away limbs that criss-cross each other, and top back the rapid growing branches.

At the end of the third season the trees will have been formed sufficient, and erected by the wind properly, that one can attend to the stature of each tree. This is easily done the fourth spring from planting, and consists in heading in quite heavily upon the east side of the trees, and allowing an inducement for heavier growth on the side where the heavy winds prevail. Gaining the proper equilibrium of an apple tree is very essential to its future welfare, and if not well balanced when in its infancy it is pretty hard to gain this proper condition when more mature. Look well to the tops and the various branch growths, and that at an early date, and you will have a tree that will stand almost any strain from winds and carry much better its crops of fruit to maturity even though the winds be heaving and rough during the autumn.

As the orchard grows older many branches will appear in various manners that must be removed, and the common sense of the owner must dictate to the proper removal of such, but let that dictation serve you before such branches have become so large that they must be removed with axe and saw. We deem it aggravated butchery to allow a tree to grow right under the ban of the owner for many seasons and just at the sudden moment let him be taken with a spirit that his orchard needs pruning, and sally forth with axe and saw and give his trees a frightful butchering, supposed to serve for years to come. Such owners get but little fruit, and certainly but little fruition from the owner of a well cared for orchard.

Best to keep an occasional branch of intrusion removed neatly with pruning clippers each season when yet quite small than to cut and wound the trees once in about five or ten years. Such butchery is not tolerated in the present day by our up-to-date fruit growing farmers over the land.

The object in view to proper pruning of the apple is to remove all superfluous limbs, injuring the growth. Also, to get a proper and equally balanced head and as well keep the head well opened up to give a proper color and flavor to the maturity of fruits.

As well, in maintaining an open head the winds does not have the force against heavily laden branches, thus straining and breaking them down.

Methods of cultivation and mulching greatly obviate this fault, as branches upon a tree that has been properly grown, become much stronger, tensile strength greater, and will bear up under almost any burden of fruitage.

Otherwise trees that are poorly cared for during their growth having taken on a lop sided and ill proportioned head, must necessarily be of little use in bearing and carrying even half a crop of fruit thru an ordinarily rough season.

With proper methods of cultivation as we have practiced in our orchard in the past with a plentiful mulching of coarse materials at the proper season we find that the root system of our trees are not buried deeply within the soil, but just at the top of the surface, beneath the mulching lies millions of tiny rootlets seeking moisture.

It would be the utmost folly for us to intrude upon these young feeders, by tearing them to pieces with breaking plow, but with the disc we can easily cultivate the soil up to the very base of the trees, thus preventing sod from forming about the trees in absence of the mulch, locking up the surface moisture for these tiny feeders.

With the improved disk-harrow we can cultivate the soil sufficient for any seed crop which we desire to plant in the orchard between the trees, and with this tool we can with team get up right next to the trees and do work that we can do with no other tool on the farm.

At present we have our orchard sown into a crop of oats, heavily seeded, which will be pastured with small calves and pigs, until the middle of June when it will be mowed and the surplus thrown about the trees. Thoro disking at this time will place the soil in good tilth for a crop of buckwheat, which will later be in bloom and a veritable harvest for the bees, and a crop of buckwheat grain harvested in time to disc the soil and broadcast heavily a crop of white rye to cover the ground during the winter season. The buckwheat straw will be returned to the orchard and spread about the trees as a mulch, when threshed.

Thus we have removed three crops, that of early pasture, a crop of honey and buckwheat grain all from this plot and the trees having three cultivations this season.

The rye will be sown with timothy and alsike and the rye crop harvested when green and used next season as a mulch, about the trees.

This will have given our orchard thirteen seasons of open cultivation with various mulches each season, consisting of stable manures, wheat and oats straws, some seasons corn fodder, one season a heavy crop of millet mowed green and applied about the trees, buck wheat straw and rye mowed green.

We have aimed each season to procure during the drouthy period some form of mulch about the base of the trees.

There is nothing so beneficial for a young orchard as a windbreak or protection from the winds of winter.

It was not practical for us to plant out evergreen as they grow very slow, however they are most effective.

One of the first things to do after planting out a young orchard should be to form the future fence-line and about this line plant out some form of wind-break. We used deciduous trees and believe that until the orchard is in need of them they will be quite effective. A line of rock-maps is extended around the entire west and north line of the orchard and from these we expect to harvest much sweets in the future as well as protection.

In connection with these a belt of low growing catalpa speciosa is also planted to cut off the draft below the heading of these maples, and as we have located our orchard to the west of our dwelling on purpose, we expect to save much in fuel bills for the future in the prospective location of our orchards and wind-belt.—Geo. W. Brown, Hancock Co., O.

The Hidden Hoards of America.

Hardly a week goes by without a discovery of hoarded money, deeds, stocks, or bonds, says Raymond S. Spears, writing in the issue of Harper's Weekly. "In twenty-four typical reports, selected at random, of hoards revealed, the average amount of each hoard was \$8,283, with a maximum of \$50,000, a minimum of \$50, and a total of \$197,887.87. Not all finds of this character are described, for the obvious reason that, in law, finding is not keeping when owners or their heirs appear." The author estimates that this country contains a hundred million dollars in hidden fortunes. Much of this dates back to Civil War times; some to the days when smuggling was more prevalent. One fisherman painted his house with some stuff found in tin cans only to learn that it was opium worth thousands of dollars.

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Automobile owners are burning up so much gasoline that the world's supply is running short. Gasoline is 3c to 10c higher than coal oil. Still going up. Two pints of coal oil do work of three pints gasoline. No waste, no evaporation, no explosion from coal oil.

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The "DETROIT" is the only engine that handles coal oil successfully; uses alcohol, gasoline and kerosene. Starts without cranking. Built patent—only three moving parts—no case—no sprockets—no gears—no valves—the simplest in simplicity, power and strength. Mounted on skids. All sizes. The 20 h. p. in stock ready to ship. Complete engine tested just before crating. Comes all ready to run. Pumps, saws, threshers, churns, separators, milk, grinds feed, shells corn, runs home electric-lighting plant. Prices (stripped), \$29.50 up. Send any place on 15 days' Free Trial. Don't buy an engine till you've investigated amazing, money-saving, power-saving "DETROIT." Thousands in use. Constantly postal to find out. If you are first in your neighborhood to write, we will give you Special Extra-Low Introductory price. Write **DETROIT Engine Works, 151 Baltimore Ave., Detroit, Mich.**

Great Farming Opportunities in the Genesee Valley, N. Y.

The "Pleasant Valley" of the Indians South of Rochester, N. Y., presents as large and varied opportunities as any section of the United States for profitable farming and a better country life—and good land may be had for from \$50 to \$100 an acre.

In the fertile State of New York there is probably no valley which is more famous in legend more diversified in its agriculture, nor one possessing greater possibilities than that of the Genesee, South of Rochester, N. Y. A thousand years ago it was cultivated in places by the Indians, and later it was the Western gateway of the powerful confederacy of the Six Nations. It was inhabited by the Senecas, and industrious and agriculturally inclined people, and they called it the Genesee, the Pleasant Valley, and, fortunately, the white man has retained this Indian name.

English visitors have compared parts of it to the Thames Valley of England, but it offers much greater diversity than the Thames Valley. One may go down from Rochester, or, rather, up, for the general lay of the land is to the north, travel south, and for over thirty miles can tread on the valley floor so level that there is only sixty feet fall in the entire distance, but from time to time one notices that the sides of the valley begin to appear and assume definite shape. The terraces, marks of previous shore lines, become more pronounced, until at the end one sees a more abrupt wall and realizes that from the floor, less than six hundred feet above sea level, to the top of the plateau is a climb of 1,000 to 1,600 feet. Having made the ascent one finds himself on a comparatively level tract 1,600 to 1,800 feet above sea level, with one point 2,200 feet high. We are in the country of "the Southern Tier". Southern New York is a vast Plateau which has been gullied and carved and washed by streams innumerable. We are thankful a glacier went over it, because had it not our hills would be as bare and as rough as some of those of Central Pennsylvania. But the glacier planed it, it smoothed it off, it filled up some of the gullies and gave us coats of soil, sands, clays, gravels, silts, and left us holes here and there which have held water and become bogs, and given us peat and muck; land varied in its agriculture, with openings for the use of all types of minds and merely awaiting the coming of the more intelligent man to show its possibilities.

Large quantities of these lands have been mapped and are known as the Volusia soils, Volusia loam, Volusia silt loam. These lands are all well watered, excellent for sheep and for the development of livestock, and one of the best districts in the whole United States for the production of Irish potatoes. In fact, Steuben County is second only to Aroostook County, Me., in quantity of potatoes grown, and these are produced at as low a cost per bushel. I believe this region is capable of producing as cheap potatoes as any section we have.

This land is cheap. You can buy lots of it for less than \$50 an acre. It needs more roads, more macadam roads, and the country is making a strong effort to get them. Trunk roads are being put in by the state, and all the town roads are being improved under better systems of working.

As we begin to travel further north the soil types change; for we have thirty-three of them in the county; in fact, all that are found in Western New York are present. When we reach the thousand-foot line we find ourselves in an entirely different soil series. We are in the Dunkirk series, Dunkirk clay, clay loam, sandy loam; they are all here. This series runs through Central New York from Syracuse to Dunkirk, on Lake Erie. They are the natural alfalfa belt of New York. They are all limestone soils. For instance, the Dunkirk clay, while destitute of lime at the surface, contains 10 per cent. of calcium carbonate two feet down, an inexhaustible supply, one might say, for such a deep feeding plant as alfalfa, and yet it seems to help it to grow if lime be applied to the surface. Do not say alfalfa will not grow on clays, for in this section it grows on every soil type. I have even seen it growing on the valley floor, on the Genesee loam, where it has been under water for four days at a time in the spring and been flooded twice before the first crop of hay was cut, and would then yield two tons of hay at the first cutting. The second crop being allowed to produce seed, would yield five bushels of seed an acre, and the farmer, after selling the seed at \$13 a bushel, sold the chaff and stalks at \$10 a ton, taking \$100 an acre for his alfalfa crop for the year. Was it hurt for future crops? Not in the least. It is still doing business, cutting three crops the next year, and sometimes four, and thus it goes.

OUR FRUIT GROWING. The fruit industry is coming in. This district has always grown some fruit;

formerly each farm had its orchard. These have been neglected, and in most cases have disappeared. Plantings have recently been made by Major W. A. Wadsworth at Genesee by the writer, and by Herbert Wadsworth, at Avon. Two hundred and twenty-five acres of fruit were planted in Genesee four years ago, including 150 acres of apples, 40 acres of pears, 25 acres of peaches, a small part being between the apples and 13 acres of red currants. On Herbert Wadsworth's place the plantings consist of 35 acres of peaches, 10 acres of sour cherries, 15 acres of prunes and 5 acres of apples. Others are making small plantations, and these orchards will act as guides to some extent in regard to varieties.

One interesting thing is the early bearing habit already indicated by these orchards. The system of procedure has been to give as little pruning as possible to the trees in all cases, and last year, when four years planted, some Hubbardston trees produced one bushel of fruit and several Baldwin trees had thirty apples on. This year, all the Baldwin trees on Herbert Wadsworth's orchard had some fruit, and two trees bore half a barrel each. The Hubbardston and Stark bore a bushel each in some cases. Some of the peach trees when three years planted, that is, in their fourth season, produced two or three bushels of fruit. This was not an average, but it indicates the possibilities. These trees are ably managed by M. E. Ross. At Genesee, one peach orchard, when three years planted, that is, in its fourth season, produced an average of \$50 worth of peaches an acre. The next year the gross returns averaged \$70 an acre. Currants four years planted produced an average yield of one and one-half tons an acre, being the average of a ten-acre patch. Such varieties of apples as McIntosh, Boiken, Wagner, Rome, Wealthy and Twenty Ounce had some fruit on when three and four years planted, the maximum being fifty McIntosh apples from one tree four years planted and forty-five Wealthy apples from one tree three years planted. The best record was a Baldwin with seventy apples, almost a bushel, from a tree four years planted, on the Fall Brook Farm, Genesee. Another interesting record is that made by a previously neglected orchard of six and a half acres, which produced an average yield of 130 barrels an acre in 1911, and in all of the last five years during which it was undergoing renovation it has made handsome returns.

Genesee has a jam kitchen in which large quantity of first class are handled. Sixty tons of currants are used for jelly; and peaches, cherries, pears are used in like proportions. Another one has been started at Avon, and Rochester is the home of large fruit preserving interests.

Both at Genesee and Mount Morris there are two up-to-date canning factories, which rent large tracts of land and buy from the farmers such crops as sweet corn, peas, lima beans, string beans, pumpkins, squash, and, in fact, anything which can be canned. One will see in the early spring fields two hundred acres in area, planted to peas; six hundred acres of peas will be harvested and canned in two or three weeks' time by one factory. Corn rows a mile long are seen; the peas, beans, squash, etc., being planted in like area. The silage from the corncocks and pea vines is made into huge stacks and is sold back to the farmers at \$1 a ton, or \$2 a ton to those who did not grow produce for the factory. Warehouses for the purchase of beans, wheat and other produce are found in every village.—Robert Frazier in N. Y. Tribune.

From Mi Dikshunary.

Written for Green's Fruit Grower

By Unkel Dudley.

Ass.—An ass is an animal that goze on either two or four legs. The four legd kind noze about as much as the two legd, and iz mor dezirable fur kumpany.

Beast.—A man filld with likur; also four footd animals used fur labur, food or sport.

Idleness.—One ov Satun's helpurs shuned bi all aktiv an suksesful pepul.

Fool.—One who duzn't know mor'n haf az much az yu think yu do. Thar ar lots ov fools in the world but yu ar not wun ov them, yu know, an yu ar sure the uthur fellur iz.

Jewels.—Valued jewels, glitrin gems set in gold. Priceles jewels, a klean karaktur, a spotles reputashun, a Christ-like life.

Brains.—Tools bi wich thoughts ar fashund an put into use.

Business.—That wich yu ar doin, but the uthur fellur wants tu boss or tel yu how tu do it.

Honesty.—The best garment fur evry mortul tu ware evry day, fur it brings er blessin tu ol who poses it.

Friend.—One who stans bi yu thru storm an sunshine an nevur forsaks yu.

Mother.—The sweetest name on erth, a fountain ov luv in the home thet nevur fails.



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Its perfect work in all kinds of grain and under all sorts of soil and grain conditions, in the grain fields throughout the world—its ability to produce results—has put the Johnstone Binder in a class by itself. It has great strength and large elevator capacity. Easy running, perfect binding, light draft, accessible, dependable—meets all requirements—satisfies.

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The Acme Corn Planter has a "hang" other planters lack. The seed box, being centered, gives balance. Handy to either right- or left-handed men. The drop is accurate and can be changed by the thumb-screw.

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The Potato Planter does away with stiff backs. Plants at an even depth. Leaves the ground level. Write for FREE Booklet, "The Acme of Potato Profit," and name of nearest dealer. If he is not handy to you, we will ship, prepaid, on receipt of price.

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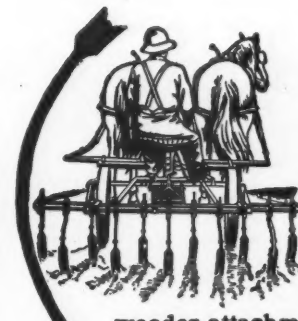
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Rowe Manufacturing Co., 504 W. 4th St., Galesburg, Ill.**"Cant-Sag" Gates****BIG MONEY FOR YOU**

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of corn, cotton, cereals, and all fruits and vegetables.

Ordinary plowing turns over the same shallow top-soil year after year, forming a hard and nearly impervious "plow sole" that limits the waterholding capacity of the land and shuts out tons per acre of natural plant food.

Dynamiting the subsoil makes this plant food available, aerates the soil, protects vegetation against both drought and excess rainfall, and soon repays its cost in saving of fertilizer expense and largely increased yields.

There is a new and better farm right under the old one. Subsoiling with Red Cross Dynamite gives you 6 feet of top soil instead of 6 inches.

Write for Free Booklet

To learn how progressive farmers are using dynamite for removing stumps and boulders, planting and cultivating fruit trees, regenerating barren soil, ditching, draining, excavating and road-making, ask for

New Farms For Old,
No. 28**DU PONT POWDER CO.**PIONEER POWDER MAKERS OF AMERICA
WILMINGTON, DEL.**Farm Department****The Greatest Waste on the Farm.**

It is unfortunate that there should be so much waste on our farms. In this respect the East has less to answer for than the West. On the majority of Western farms waste presents itself in many forms. There is the waste of thousands of bushels of grain in harvesting the crops for the reason that animals cannot glean on unfenced farms. There is also great waste of pasture in the grain fields during the fall. Weeds and other plants which should be turned into meat are allowed to waste for want of animals to feed upon them. There is also an enormous loss in the handling of straw, so large a proportion of which is destroyed without having first been used in feeding and bedding live stock. Then there is waste in stacking grain and in putting up hay, this waste often amounting to one-fourth of the entire crop. Great as all this waste is, no one of them is so great as the waste of manure when the whole country is considered. It does not occur simply on the farms on which but a few animals are kept and where it is allowed to lie and waste in the barnyard or along some watercourse, but it occurs more or less on almost every farm. Although a great majority of farmers know that manure is best applied when fresh, owing to the scarcity of labor, the manure is not drawn out and applied as it should be. As a result, a large portion of it

possible the continuance of a domestic supply of food products sufficient for our needs. Theoretically these devices should have reduced appreciably the cost of production and the market prices of the products, but the operation of other forces has offset the economies theoretically to be effected by improved planters and seeders, ploughs and harrows, reapers and threshers, and the prices of farm products are to-day much above those of twenty years ago.

The product value of agricultural implements manufactured in this country, not including hand tools and wagons, shows the following increase in recent years:

1890.....\$ 81,000,000 1904....\$ 112,000,000
1900.....101,000,000 1909....146,000,000

The total number of such implements produced shows an advance from 3,892,012 in 1904 to 5,024,637 in 1909. The increase or decrease in the number of any individual appliance may be regarded as a determination of the economic value of that particular device. Thus while the number of hand corn planters increased in five years from 86,000 to 96,000, or about 11 per cent., the number of horse-drawn corn planters increased from 91,000 to 123,000, or about 35 per cent.

The increase in farm products in the last ten years could probably be ascertained approximately. There has been a gain of 10 per cent. in the number of farms and of 15 per cent. in improved



Here is a photograph showing how the border of a home lot may be planted with trees in the background, tall shrubs in front of the trees, and in front of these shrubs lower shrubs or flowering plants. Notice that there is nothing in a straight row along this border. Everything is in a wavy line. This photograph can simply be a suggestion as it represents a large estate, whereas most of our readers have small lots to beautify. Both the farmer and fruit grower should aim to have a wide expanse of lawn or meadow around his dwelling. Consider how beautiful a farm home would be if at either side of it was a five or ten acre field of meadow, which after the grass was cut would be like a lawn all the rest of the season. It is not difficult or expensive to make a farm home a beautiful place where your children will be glad to remain, or to which they will gladly return if they have been tempted away from the old farm.

goes to waste. What a great matter it would be both East and West, if this waste could be stopped. It would be difficult to estimate the enormous increase in production. Although it is too much to hope that it will entirely cease, yet it is not too much to expect from all who read this article. Turn over a new leaf and give more attention to the care and application of barnyard manure.—Ex.

W. L. Nelson, writing in the World's Work, gives some statistics about farm home equipment, which have a bearing on the question of contentment with life on the land. Quoting from a recent report of the Missouri State Board of Agriculture, he states that less than two per cent. of the farm houses of the state are provided with water systems; less than three per cent. are provided with modern heating systems, and less than four per cent. have modern lighting systems. A comparison of home improvements with those in mechanical equipment and in the care of livestock and outside property makes a dismal showing for efforts by the farmer to make the home keep pace with the business of the farm. There will be no real enthusiasm for farm life on the part of those whose business is home-making and managing until this matter is given attention.

Farm Machinery.

The invention of labor saving devices for use in agricultural processes has been and is the controlling factor in our food supply. The hand hoe and the horse-drawn plough that scratches a shallow furrow have not entirely disappeared, but their use to-day is limited to the poorest and least efficient of our farmers. The general adoption of more effective machinery and appliances has made

acreage. The gain in production, measured in quantities, has probably been not far from 25 per cent. Taking only those engaged in the industry, per capita production has unquestionably increased materially, in some measure because of improved methods of farming, but in much greater measure by reason of the aid afforded by improved implements and by a more general use of those implements. Not all of these appliances are used in this country. Exports show steady increase and foreign sales now exceed \$30,000,000 a year.

Origin of Petroleum.

The origin of petroleum is everywhere the same. Of the many hypotheses advanced, the organic origin of petroleum is based on the soundest geologic facts. No matter where sediments—such, for example, as mud, sand, etc.—are deposited, if they inclose animal or vegetable matter, petroleum may be produced; but a few other factors are necessary in order that the transformation from organic matter to petroleum will be more certain to take place. These factors are water, preferably salt, which must be present; air must be excluded, and a layer of clay must cover the material from which the petroleum is being formed. This covering of clay is necessary in order that the petroleum be kept from rising, diffusing itself in the strata above, and finally escaping at the surface of the earth. It does not rise through the clay, because the pore spaces are too minute to allow circulation of a liquid. The change which takes place in the making of the petroleum from the animal or vegetable material is accomplished by a process of slow distillation of the organic matter.—Cassier's Magazine.

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FREE**How to Make Plant Food Available**

The secret of big crops is getting the plant food in a form for the plants to utilize. The soil is composed of numerous chemical elements and compounds, among which are those the plants must have to feed upon, but are not in a condition to be dissolved and taken up by the roots. The object of pulverizing the soil is to aid in the making soluble



these chemical elements. The finer the soil is worked the more plant food is made available. That is why the Double Action "Cutaway" Harrow has made bigger crops than other disk harrows. It works the soil into a fine tilth, and leaves the ground level and smooth. Its rigid frame holds each of the four gangs to its place, instead of allowing the gangs to rise and fall with the unevenness of the ground as the flexible machines do, leaving uneven, hard places uncut. The jointed tongue keeps weight off of the horses' necks, and, being removable in one minute, the disk may be used as a tongueless when desired and at the same time have the advantage of tongue in transporting. With these machines you can disk twice as much ground as double disking with an ordinary disk and many times better. Write to Cutaway Harrow Co., 865 Main St., Hingham, Conn., for their new catalog, "Intensive Cultivation." It tells all about these tools that make big crops.

Fish Bite like hungry wolves if you use **Magie-Fish-Lure**. Best bait known for attracting all kinds of fish. Bait a box. Write for free booklet and my special offer of one box to help introduce it. J. F. Gregory, Dept. 47, St. Louis, Mo.

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Hold the moisture in your soil; make more plant food available; save both from weeds. Better cultivation will do it, and make your field out- yield one naturally more fertile. Best cultivation is done with Iron Age Cultivators. They are adjustable to all conditions—hill land, wide or narrow rows, different crops in same row, one or two rows; pivot or fixed wheel, break pin or spring hoe, or spring tooth styles; sand and dust-proof hub; re- forced double point shovels; perfectly balanced. Built to work and last. Don't buy any cultivator until you have seen the Iron Age. Ask your dealer to show it. Backed by 76 years' experience. Write for special booklets. Complete line of farm, garden and orchard tools.

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The "ACME" is the only Harrow that cuts, crushes, turns, smoothes and levels in one operation and is a perfect weed exterminator and surface mulcher. There are no lumps or air spaces between the furrows after using the "ACME." Your soil is in the condition of a perfect seed bed. The subsoil has been properly packed and the top soil mulched to attract and conserve all the moisture.

The cutters cut through to the under soil, leaving the trash that has been turned under, beneath the soil where its fertilizing qualities may benefit the growing crops. There are sizes 3 to 17½ feet wide. Each

ACME HARROW**Pays For Itself Every 20 Acres**

Each "ACME" is the greatest value offered. Any "ACME" will pay for itself on 20 acres the first year and will keep on paying big profits for a lifetime.

Let us send you our combined catalog and booklet containing the service of articles by well known authorities on soil preparation, and describing the "ACME" line. Ask your dealer for prices, or write to

DUANE H. NASH, Inc.
230 Division Ave. Millington, N. J.

Farmyard Manures.

The rotting of manure is principally brought about by the growth and development within it of millions of minute vegetable organisms, bacteria, which although extremely small are separated just as sharply into classes according to their effects as the higher plants are separated into species according to form, says Pennsylvania Farmer.

After the first rapid fermentation of manure subsides, during which a considerable amount of nitrogen may combine with hydrogen to form ammonia, three classes of bacteria take part in the further decomposition of the manure. In those portions of the manure which are accessible to the air, one class of bacteria live and breed in enormous numbers. They feed on the oxygen of the air and the nitrogenous portion of the manure, and, in their excrements, give off large quantities of nitrates, the latter being the direct products of the oxidation of nitrogenous organic matter anywhere, whether in the bodies of these bacteria or not. These nitrates being very soluble in water, drain down into the interior of the manure heap, just as they drain thru the soil. But, instead of going off in the drainage water and becoming lost, as they often do in soil, they are chiefly lost by an entirely different process.

In the interior of the heap, shut away from the air, these nitrates fall prey to another class of bacteria known as "nitrate destroyers." They completely undo the work of other bacteria or "nitrate formers." The "nitrate destroyers" live on the non-nitrogenous constituents of the straw and leaves and the oxygen of the nitrates. This liberates the nitrogen in the form of gas which escapes into the air and is lost to the farmer. The process also consumes the non-nitrogenous portion, which is chiefly the remainder of the litter. It is formed into the water and carbonic acid gas which escapes into the air and thus diminishes the bulk of the pile. While the "nitrate formers" live near the surface of the manure and require air for their work, the "nitrate destroyers" live away from the air and do not need it. They are dependent, however, on food of a certain kind and must have plenty of it, otherwise they become inactive and can do no damage, the millions of them may exist in the interior of the manure pile. One of their principal foods, the non-nitrogenous material of the litter, they cannot use as food until it has been made soluble by a third class of bacteria which causes the rotting of the litter. Nitrates are also indispensable for their nourishment. If therefore they are deprived of either one of these constituents of their diet they either die or at least become harmless.

The work of the "nitrate formers" is beneficial; it converts organic nitrogen into nitrate, a most available form of plant food. Half-rotted manure contains nitrogen largely in this form. The work of "nitrate destroyers" is destructive. It removes the soluble nitrates from the manure. In this way the different effects produced by manure in the three different conditions are explained. The nitrogen in fresh manure is largely organic and not immediately available. It therefore has a slower and less effect than half-rotted manure. The nitrogen in half-rotted manure is largely in the form of nitrates, and this is available. The nitrogen in well-rotted manure has all been converted into nitrate also, and was once available, but has subsequently been lost in the air. This is why the well-rotted condition is the least valuable of the three.

Not a Balloon; a Barn.

"Thomas O'Connor was looking from a rear window of his farmhouse last evening when the hurricane came. Something rose from the ground, swept high in the air, across a near-by brook and disappeared.

"There goes a balloon, lost in the storm!" he cried to his wife. Then he took a second look and shouted; "No, it ain't; it's my barn!" It had left behind its ground floor, on which were two tons of hay, a reaper, planter, mower and other farming implements. Mr. O'Connor found his barn about 500 feet away."

Compares Trust With Locomotive.

He then touched lightly on temperance, saying that if a man wanted to succeed the only possible course was teetotalism. As it was rather late he declined to talk on trusts only to say that he thought that the dissolution of the trusts would work injury to the country. He compared the trusts with the locomotive, saying that it was a monopoly because it did the work of 100 teams and teamsters, "and yet," he asked, "would anyone think it wise or advisable to go back to the stage coach because the engine was a trust and took work away from one hundred men and teams?"—Arthur Brisbane.

OUR OKLAHOMA LETTER.

Land of Enterprise and Plenty.

Editor Green's Fruit Grower:—In reading your very interesting magazine, I have noticed reports of and experiences in fruit growing from many places all over our great country, but I have seen but few reports from Oklahoma. Well! Oklahoma is a new State, but it has been called the state of miracles, and such it really is to many people who are acquainted only with the progress of slower developing sections of the country. Where a few years ago in Oklahoma nothing was seen but the wild prairie or the lonely forest, the country is now dotted with large towns and cities. The iron horse is speeding hastily over a net work of steel tracks leading to all parts of the state and beyond.

Oil and gas fields with their forest of derricks may be seen in many places of the state. Coal fields and mineral fields are sending trainloads of coal and ore to their destinations, and best of all, farms, orchards, vineyards and berry fields smile at the passerby from many directions. With the exception of the extreme western part of the state, fruit of some kind can be grown and succeeds anywhere, where common sense and up-to-date methods are applied. However, the eastern part of the State, which is a portion of the famous Ozark region (the home of the red apple) is the place where fruit growing succeeds best and pays a large dividend. Of course, fruit growing in Oklahoma is and must necessarily be in its first beginning, because Oklahoma is a new state, but progressive men are beginning to look out and obtain the best and most favored situations and orchards, vineyards and berryfields are beginning to put in their appearance, and land that can be bought today at a very reasonable price, will in after years, when set out to fruit, be worth several hundred dollars an acre. I can consistently lay claim to being a pioneer in the horticultural interests of our state. Like Mr. C. A. Green I gave up city life and also a successful professional career, because I was not satisfied with that sort of existence. I longed for the free country life and being a "crank" about fruit and fruit growing, I became one of the very first fruit growers in Eastern Oklahoma. I followed the advice of the Editor of Green's Fruit Grower, which journal has been of great help to me, and I began, as advised, on a small scale. I did not, however, confine myself to one or two kinds, or varieties of fruit, but set out some few of almost all kinds of small fruit that I thought would succeed in this latitude. In tree fruits, I set out over 100 trees of various kinds as an experiment, but confined myself in the commercial orchard at first, to such varieties and kinds that succeeded in nearby localities. I am now growing nearly all kinds of fruit that usually succeeds in this and similar latitudes and the wisdom of this plan—the many kinds of fruit—has demonstrated itself with a little surplus on the right side of the ledger in accounts with the bank, because there is scarcely a day in the year, from the middle of April, until well up in the winter, that there is not something on the market from Mt. Acme Fruit Farm.

In small fruits, raspberries, dewberries, huckle and juneberries, Himalaya and Eleagnus Longipes succeeds admirably here. Only currants and gooseberries, for a while, did not succeed as well, but now, since I have been setting them on the north side of fences and buildings and giving them a liberal mulch during the hot season, they are doing splendidly. Grapes are a success here, if properly handled; the standard sorts all seem to do well, and the Muscadines are being tried now with hope of success.

I have not lost a peach crop since the trees came into full bearing—five years ago. Smudge pots are not needed if the proper location is selected. Some of my peaches last summer measured 15 inches around, and I sold them at fancy prices. The apple trees are now beginning to bear fruit and they, as well as the pears promise well. Plums, cherries, Nectarines and Apricots are almost a sure crop each year. And now we come to the last, but certainly not the least important of all—the strawberry.

We sold our strawberries last year at \$3.60 a crate, while strawberries shipped in here from other states went begging at \$2.00 per crate, but we put nothing on the market except first class stuff. We have learnt by experience that it pays.

I enclose you photo of one of my strawberry fields, just before mulching time. The strawberries are mostly C. A. Green's Corsican and Steven's Late Champion. I also send you another photo of a still more precious product of Oklahoma. The two products of Oklahoma will, I think compare favorably with products from other localities. You'll excuse me I am sure for being proud of my state. With sincere wishes for the further success of Green's Fruit Grower, the old reliable, I am yours.—I. N. Leerskov, Okla.

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These outfits are the regulation STEAM PRESSURE BOILERS with safety valve, steam gauge, etc., same as are used in every modern canning factory in the world, only made in smaller sizes to be used on the kitchen range or in any convenient shed or building. Complete Home Outfit retails at \$15; Hotel size, \$25; small Factory size, \$100 and \$200.

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We want representatives in every village, county and state in the Union to sell these boilers, either direct to farmers and orchardists, or to act as jobbers for larger territory. Our book "Secrets of the Canning Business," is sent free. **Northwestern Steel & Iron Works**
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New York Agriculture.

"For every sheaf of wheat that Wyoming has to offer as a lure to Eastern investors, New York has a bin of grain. For each big apple from the far Northwest, New York displays an apple not quite so large, but one that is guaranteed to be twice as good in flavor." In short, while making no pretensions to excel the achievements of the West in certain special lines, New York by its exhibit at Madison Square Garden proves indisputably its right to rank among the foremost agricultural sections, with an extent and variety of products that cannot be surpassed. The exhibit reveals that the four leading farming states are New York, Ohio, Illinois and Iowa, in the order named, and that the average value of farm products per acre of improved land in New York is more than \$2 greater than in Ohio and more than \$3 above the average in the other states.

Various features of the New York exhibits are of especial interest. Thus it appears that New York surpasses all other states in the production of hay, milk, potatoes, vegetables, forest products, flower and foliage plants, small fruits, beans, nursery products, hops and onions. This is an impressive list, and there are many other items in which the state has high standing. Among other things it appears that the production of corn, oats and wheat per acre is greater in New York than it is in some of the states made famous by the growth of those crops and the large area devoted to raising them. The facts show that there is more intensive cultivation here than elsewhere, and that as a result there are better returns from the soil.

The exhibits now being made in the metropolis serve as reminders that New York produces more hay than any

Eat Five Apples a Day.

Every man, woman and child in the United States should eat five apples a day this winter, according to an appeal from the growers. Five apples a day for each of 90,000,000 people would mean 450,000,000 apples; but the country's orchards are perfectly capable of standing the strain. The United States government has forecasted a crop at least 25 per cent. in excess of last year's crop of 14,000,000 barrels; but as a matter of fact, the big apple shippers of this city do not hesitate to assert that fully 20,000,000 barrels will be disposed of, leaving out of consideration thousands of bushels of apples used for drying, for preserving, and for cider, and those left on the trees or ground to waste.

It is the farmers of the country—that is to say, the apple farmers—who have set up the plea for every person to eat five apples a day. They base their plea on two considerations. In the first place, they unselfishly state, eating five apples a day will be very beneficial to everybody. In the second place, such a steady consumption of fruit will be extremely useful to the apple industry. It will probably mean that there will be no left-overs in the storage warehouses. Five apples a day for each of 90,000,000 people for a whole winter would mean that there would be nothing left of the eating-apple crop.

There are several things that the farmers have forgotten to explain in their appeal to the public, however. They haven't specified when the five apples should be consumed, whether one should have a Northern Spy before breakfast and a Baldwin after dinner, or vice versa; whether one should eat a Greening just before retiring or gnaw gingerly at a Russet. Now these are important questions to one who contem-



Gathering the fruit of the vineyard is an interesting period in the life of a fruit grower. He has planted the vines, he has cared for them during their infancy, he has seen them gradually come into bearing. Now the vines are filled with the beautiful clusters. You and I being fruit lovers can appreciate the pleasure this man takes in gathering these delicious grapes.

other state, the average annual value being nearly \$100,000,000, and that the state towers above all others in dairy products, the value of which is about \$60,000,000 yearly. These and other features of the exposition are most convincing as to the supremacy of New York State in agriculture, and will be surprising revelations to many who had no conception of the actual situation. The New York exhibit has a particularly advantageous position in Madison Square Garden, and the advertising the state is getting as a most inviting agricultural field is very effective.

Ram's Horn Wrinkles.

Indianapolis News.

The man who steps on a bulldog's tail to find out whether the dog is asleep, generally gets the information he seeks. Looking for good is a surer business to go into than looking for gold.

It doesn't take stuff that can be bought and sold to make a good man rich.

If you would see some hard sweating done, go two miles with the man who has just compelled you to go one with him.

It is good to lie down in green pastures, but not so good as to keep on the move in the valley of the shadow of death.

Any kind of poverty and hardship can be endured for a season, when we know it is only for a season.

There is nothing blacker than the lie that deceives a child.

How quick the most of us would sometimes run, if we were not afraid to be the first to start.

The lazier a man is to-day the more he intends to do to-morrow.

Take away the masks that people wear unconsciously, and no man would know his next door neighbor.

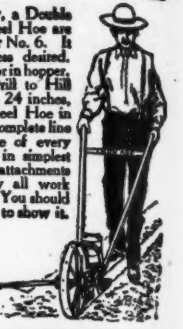
The sooner you load your gun the better, but do not be forever in pulling the trigger.

A lion often has to take a back seat when the lioness is at home.

Some of us forget that for every fault we see in another we have two or three of our own.

FOUR TOOLS IN ONE

A Drill Seeder, a Hill Seeder, a Double Wheel Hoe and a Single Wheel Hoe are all combined in Iron Age, our No. 6. It drills accurately any thickness desired. Shut-off on handle, brush agitator in hopper. Changeable instantly from Drill to Hill Seeder or reverse. Drops 4 to 24 inches, as desired. Changed to Wheel Hoe in three minutes. Is but one of complete line that fits the needs and purse of every gardener. Can be purchased in simplest form and added to as different attachments are needed. It does perfectly all work after breaking up of garden. You should see this tool. Ask your dealer to show it. Write us for special booklet.



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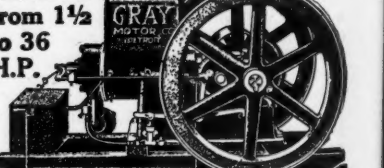
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CHERRIES ON THE FARM.

Makes One of the Most Dependable Fruits Possible.

The "good old summer time" is with us again, and even if we do get a little too hot sometimes, there are compensations. To me there is no feature of the summer season that adds much to the attractiveness of the time as the abundance and variety of fruits and summer vegetables, says Farm Progress.

It is surprising, however, how many people there are who seem not to appreciate these things. At my home we have an abundance of practically all the good things in this line, and I am sure that they not only give us pleasure, but add to the good health of the family and cheapen the cost of living.

Of course, on new places it may be necessary to wait quite a while for tree fruits; but if one has been in his home only a year he can have a supply of strawberries, and in two or three years some of the tree fruit, not to mention raspberries.

There is one kind of tree fruit that I strongly recommend. I refer to cherries. On my own farm we have a good many cherry trees; some of them very large. They almost never fail to bear, and usually the trees are literally loaded. As it is very easy to gather the cherries from the big trees, and as we have a seeder it is a rather easy matter for us to put up, as preserves or canned fruits a large quantity of these cherries.

Nothing seems to be liked more by members of the family or guests than this delightful fruit, when fresh, stewed or preserved.

With our experience of them I by all means urge every owner of a home with a little space around it to plant some cherry trees. There is apparently no more hardy or vigorous and long-lived tree than the cherry.

I know of some trees considerably more than a hundred years old that are still bearing, though to my certain knowledge they have had no cultivation whatever, and now in a pasture, where they get no attention whatever. These are the old-fashioned sorts, that were in vogue early in the last century, but I have no reason to believe that the later varieties will be less prolific or long lived.

I think some people who make fruit preserves confine themselves to the berries and peaches, and pears. They may like the preserved cherries or dried berries very well, but think that the labor in seeding them is too troublesome. But the latter is not true any longer.

We have a cherry seeder, a cheap little kitchen implement, that seeds the cherries as fast as they can be run through it. They are then ready for either preserving or drying, and when that is done they are so good and wholesome that they ought to find a place in the larder of every farmer's wife.

To those who have no cherry trees in their list of fruit trees, I say, by all means get a half dozen trees of different sorts this fall, and plant along the fence in the garden.

It will not be many years before you can get some fruit, and in increasing quantity every year. Better to get several kinds, and two or three of each kind.—O. N. O., Maryland.

What Shall This Young Man Do?

A bright, enterprising and promising young man, in whom I am greatly interested, has spent many years in preparing for his life work as an architect. He has become a skilful designer of buildings and is earning good wages but finds to his surprise that he cannot endure confinement in an office owing to a tendency toward lung trouble. The question he asks is: "What shall I do?" I have a wife and children to support.

C. A. Green's Reply: It is impossible for a man to start out in early life with full knowledge of all the mishaps or misfortunes which may overtake him, but in selecting a vocation one should consider its healthfulness. The young man should ask: "Is this life work which I am about to enter conducive to health, or is it conducive to short life?" but such a question seldom suggests itself. There are many thousands of people today confined in poorly lighted and ill ventilated offices, who realize that their stay on earth will be brief unless they can break away from office life and get out into God's fields filled with sunshine and ozone. But here is a trying situation. The young man has spent many years in training for what he supposed was his life work as an architect. He is better fitted for that work than for anything else. How can he drop his profession, pick up other work, and while he is learning his new work continue to support his wife and children? Here is a problem which is confronting many people today and has confronted many people in days gone by.

This is a lesson to young people just embarking in life or selecting lifelong pursuits. These young people should take into consideration the fact that offices are not conducive to health and long life

as are the open fields and orchards. Some kinds of work are particularly conducive to disease and brief existence. I refer to the manufacture of matches, where phosphorus is used, to paint shops and painting where lead poisoning sometimes occurs, and to dust laden factories of any kind. There are lines of business in cities which take men out of the office a portion of the time. For instance, collections, the life insurance or real estate business, or that of commercial traveler.

In replying to the above inquiry I will say that if this young man proposes to begin work unlearned in fruit growing, poultry keeping, farming, or whatever it may be, both he and his wife and children must make up their minds to pursue close and wise economy, for such economy would be absolutely necessary owing to the fact that this young man has but little capital or scarcely any. He may decide to lease a moderate sized farm already stocked with animals and tools, or to run in debt for a ten acre farm.

I do not assume that it is best for every young man who leaves his office in the city to go onto a farm or to begin fruit growing, for there are many other pursuits which are healthful which he might pursue. I do not advise a young man to work against his natural tastes or inclinations. I am more and more convinced each year that men starting out in life do not realize how much self-sacrifice there is and how great the struggle of men who ultimately rise in the business world to eminent success. A son, seeing business come into his father's well established

business, seemingly without effort on the part of anyone, feels though his father may have succeeded far better than any of his neighbors and relatives, that his father's success is insignificant compared with that which the son will achieve later on, and really at heart looks upon his father as a relic of the past age, assuming himself, with all his inexperience, superiority over his aged parent. Sooner or later such a young man will discover his mistake. Generally he discovers it later in life when his own head begins to become gray.

No, success is not so easily attained in business or in the professions as many young men suppose. I have myself been fairly successful, but many times I have thought that if I could assure ambitious young men that they could meet with any success by going through the privations that I went through in early life that these young men would decline to undertake the job and accept the reward. There are many young men so conceited, so full of the feeling that they are superior beings, far in advance of those who have had many more years of experience, that I am convinced they will never reach the road which leads to success until they have been thumped around and cuffed by the cruel world until they become fully aware of the fact that they are, after all their boasting, simply ordinary mortals with ordinary ability.

What Trees to Plant.

"The trees used in planting have much to do with the future success of the orchards," states Prof. Moore.

"Thousands of inferior trees are being planted each year. The true standard upon which to purchase is the age. The two-year-old tree is usually best for commercial planting although one-year-olds are quite generally used. In ordering nursery stock deal direct with the nurseryman rather than through agents, unless you know them personally. State the kind of trees wanted, refuse substitutes and be willing to pay a good price for the right kind of trees. Take good care of trees upon arrival, to assure healthy growth when they are planted.

"The best time to plant a new orchard in Wisconsin is the early spring, as fall planting results in winter killing in many instances. Plant as early in the spring as the soil and weather will permit carefully pruning the roots and top closely when the tree is set. Do not fertilize newly set trees as excessive fertilization prevents the development of an extensive root system. Prune the top closely so as to form the head of the tree and develop the branches.

"The best varieties for Wisconsin which have been found to be hardy and productive for commercial purposes include: Wealthy, Duchess, McMahon, Fameuse, Northwestern Greening, McIntosh, Longfield, Dudley, Tolman Sweet and Yellow Transparent, of which the first five are most popular."

Cheaper fruit this year will ultimately benefit growers by giving them a broader outlet. Many consumers have got away from the apple habit in recent years of high prices.

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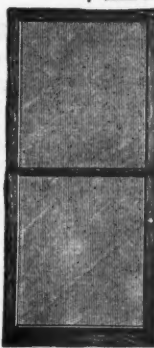
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Department G-18
Cleveland, Ohio



Does Spraying Pay?

The farmer and fruit man is beginning to count the cost of spraying and will be interested in the figures compiled by the Nebraska experiment station. These represent the results of practical study in 16 different orchards during a period of five years. Some times conditions were favorable and sometimes unfavorable.

COST OF SPRAYING.

Number of orchards sprayed, 16.
Total number of trees sprayed, 3,300.
Average age of trees, 18 years.
Average number of sprayings per year, 4.
Average quantity of spray per tree each year, 13 gallons.
Average quantity of spray per acre (50 trees), 650 gallons.
Average cost of spray material per 100 gallons, 87 cents.
Average cost of applying spray per 100 gallons, 98 cents.
Average total cost of spraying per 100 gallons, \$1.85.
Average annual cost of spray material per tree 11.3 cents.
Average annual cost of applying spray per tree, 12.7 cents.
Average total annual cost of spraying per tree, 24 cents.
Average total annual cost of spraying per acre (50 trees), \$12.00.

RESULTS OF SPRAYING.

Average annual yield and value per acre (estimated on basis of 50 trees):

Sprayed trees—
Marketable fruit 220 bu. \$114.40
Culls and windfalls... 55 bu. 3.30

Unsprayed trees—
Marketable fruit..... 90 bu. \$36.90
Culls and windfalls... 85 bu. 4.25

Summary—
Difference between sprayed and unsprayed trees..... \$ 76.55
Average cost of spraying..... 12.00

Average net gain per acre (50 trees) from spraying..... \$64.55

It will be seen that by the investment of twelve dollars per acre there was realized a profit amounting to 638 per cent. upon this money. For every \$12 invested the investor received over and above the returns from the check plots \$76.55; i. e., the amount coming back into the hands of the investor was \$64.55 after paying for the spraying. Did it pay?

Pruning Maxims.

1. Start the tree right.
2. Do not cut out large limbs.
3. Keep your tools sharp.
4. Never prune in frosty weather.
5. Frostbitten wounds are slow to heal.
6. Never leave stubs in cutting off limbs.
7. Prune annually, but never heavily.
8. Wounds heal most rapidly in spring.
9. Heavy pruning conduces to wood growth.
10. Never use a hatchet for removing suckers.
11. Avoid injuring the cambium in any way.
12. Don't leave your pruning to the hired man.
13. The more you understand trees the better you will prune them.
14. A severe heading-back will renew the tops of old peach trees.
15. In transplanting be careful of the root-hairs.
16. In transplanting cut back top and root.
17. Do not head trees so slow as to interfere with cultivation.
18. Drastic pruning strikes at the vitality of the tree.
19. Do not start all main limbs at the same height.
20. Keep the tree free of suckers.
21. Summer pruning induces fruitfulness.
22. Torn wounds are generally fatal.
23. Paint over the larger wounds.
24. Trees are delicate structures and require careful handling.
25. A heavy pruning is always followed by a heavy growth of suckers.
26. Never slit the bark, bore holes, or drive nails into trees.
27. Never allow stock to prune your trees.
28. Unpruned, uncultivated orchards are not money makers.
29. The orchard is not a profitable source of firewood.—Southern Orchard and Home.

The Kieffer Pear, in Its Several Characters.

The Kieffer pear is considered to be a hybrid between two species, the Oriental which is rarely seen in cultivation, and some variety—probably the Bartlett—belonging to the well known European species. It has been under trial for a quarter of a century now, and has gained a place among fruit trees that are of value. But while it has good traits it has some that are not so good. As to the good

traits; the tree is a vigorous, healthy, symmetrical grower; very little subject to pear-blight; a rather early, reliable, and profuse bearer of fruit which keeps well. In the fall the thick leaves put on an attractive shade of gold and crimson, says National Stockman and Farmer.

The fruit grows large when there is good opportunity. Allowed to have its own way, the tree bears too much, generally. This can be remedied by thinning—not at all difficult—in June. The color is yellow with frequently a blush. Like pears generally, picking should be done while the fruit is hard but the seeds colored; which in the case of Kieffer is during September. Taken to a cool room and covered, ripening will advance, gradually, for more than a month, some specimens lasting until Christmas. When well grown and properly ripened, the quality is "good", for eating out of hand; and for canning "very good."

As a stock for the choice varieties, some have recommended it, and some have discouraged its use. From several years' experience here, with three of the fine European varieties, Bartlett, Seckel, and Bosc, budded in the top, some special treatment would seem to be necessary. This consists in allowing side-branches of the Kieffer to grow but keeping them under control by pruning in the spring—partial cutting back—and pinching the points during summer. If this is omitted, the Kieffer will outgrow the grafts. The difference in the character of the wood in the grafted varieties, and the wood of the stock—the Kieffer—explains this. The growth of the side branches—its own side branches—seems to keep the original tree in good heart, and all has gone well thus far. Budding (instead of grafting) has been practiced, in most cases, in changing the top of the eight or ten trees on which the experiment has been made; some of them being of considerable size, eight years old when the budding was begun; and taking three years to finish.

Persons who have not studied trees much would object to the side-shoots, preferring the bare trunk or stem. But any one who has looked into the subject knows that Nature always supplies the side-shoots, shading the trunk whenever possible. Any tree standing out by itself always has plenty of side-shoots. It is only in crowded forests that the long, bare trunks are seen.

How I Made an Old Orchard Pay.

Written for Green's Fruit Grower
By Robert Budd, Mich.

Editor Green's Fruit Grower:—Some years ago, weary with town, I bought a farm. On this land was an old apple orchard of two acres in clover sod. The neighbors orchards had many times bent under their tempting loads, but these trees had failed for years. The suckers were almost as high as the trees, the weeds were high and everything else seemed high unless you tried to sell the few undersized apples which were low. The first fall I hauled manure and ashes on the ground, taking care not to let them come in contact with each other. This proved very beneficial and the part receiving the heaviest application produced the finest fruit.

As soon as the warm sunshine of March would permit me to work comfortably, I removed the suckers and thinned out the smaller branches. It was new work and I made many mistakes. The principle one was in not cutting enough, no not by half. To produce nice, red fruit here in the east, such as our western brothers boast about, we must let the sunshine enter. No artist is more willing or produces more beautiful work. In my ignorance I used a hand saw when the very best cut in the world is made by a back saw filed a little coarse. Cutting a tree is really surgery and should be neatly done. Another mistake was in using the pruning shears too much. There is nothing like a good saw to leave a neat wound. The trees were invested with bark lice so I scraped the trunks and washed them with weak lye. Today we would use lime sulphur. Oh! but how much better that made things look.

As soon as the frost was out of the ground I plowed very shallow and harrowed once a week until August then sowed a cover crop.

I also sprayed at the proper times and effectually overcome the worms. To the expert orchardist my work would have looked crude but that was my first apple crop and netted two hundred dollars an acre. This could have been much increased by thinning the fruit.

No man ought to object to shoveling, snow a little beyond his own lot line provided a pretty widow lives next door.—Toledo Blade.

It stands to reason that the woman who looks well in a hobble skirt would look twice as well in anything else.

N. Y. Times.

KNOW YOUR SPRAY SOLUTION

The secret of Spraying Success is in the right solution. The TAYLOR "LI-SUL-SPRAYOMETER" shows you the exact gravity and strength of your Lime and Sulphur washes—the most efficient and least dangerous of all spraying solutions.

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If your dealer cannot supply you, write us. Send for circular of formulas and general information on spraying—ask about the "TAYLOR" Frost Alarm and other Thermometers for Orchardists.

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The Fruit Grower's Friend (see testimonial), has wonderful cutting power and great durability. Cuts an 1 1/2 inch limb with ease without stripping bark or damaging limb. Makes a vertical circular sweep. It makes tree trimming a recreation instead of drudgery and saves time and money. Our guarantee goes with every Trimmer.

Prices.
Trimmer with 10-foot pole.....\$4.00
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With saw and 6-ft. extension, \$1.00
Having given the "Taylor Tree Trimmer" a thorough trial, I find it all they claim it to be. It simplifies the work and is a great saver of both time and money.
M. MESSICK,
Superintendent of Bixby Park,
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Write for descriptive circular and testimonials from many pleased users.

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GREEN'S NURSERY CO., Rochester, N. Y.

The Fruit Farm.

Planting Winter Apples to the Exclusion of Fall Apples.

When the average planter of apple orchards makes his selection of varieties he is apt to select all winter varieties, such as Baldwins, Spy, King, Greening. He does this for the reason that he wants to gather his entire crop of apples at one date and make a business of marketing them at one time. As a result of this planting of winter apples almost exclusively, there is a season in the fall during October, November and December, when there are but few apples on the market fit to eat.

I happened to be in New York city the latter part of September and as usual visited the fancy fruit stores, hoping to get a few good apples to eat, as I live largely on apples and other fruits. To my surprise, at the fruit stores, where previously I had found the finest western apples as well as the eastern apples, I could find nothing but a large reddish apple which I did not recognize. I bought a couple of these and to my astonishment found they were Ben Davis. The grocer informed me that he could not get any apples at that date which were good eating apples, and that he found it difficult to get apples ripe enough to eat in October and November.

At Green's Fruit Farm we have found great profit in the Blenheim Orange apple, which may be called a late fall or early winter variety. We pick these

are few northern slopes adapted to the various kinds of fruits. It is possible that an apple orchard would not do so well on a northern slope, for it is desirable to have the warm rays of the sun not only upon the trees but upon the soil itself, and the land on the northern slope must always be cooler in summer than the land on the southern slope.

Which Are the Two Best Cherries For Home Use?

While there are many valuable cherries, if I were limited to two I would choose Black Tartarian and Montmorency. These are monarchs among cherries, but how could you get along without the Early Richmond for an early variety, or without the Morello, a very late variety, and then you should have one of the yellow cherries, such as Napoleon, known in the West as Royal Anne. Cherries are delightful fruit. What words are more inspiring than these "cherries are ripe!" or "cherries are in bloom?"

The Best Four Varieties of Pears for A Home Garden.

It is very difficult to decide which are the four best, but Bartlett must ever be in the list, also Wilder, Early, Anjou, and Sheldon or Bose.

The above are four marvelous pears, but this does not mean that there are not other marvelous pears, such as Duchess,



A Banana Apple Tree bearing at an early age. The name of the subscriber who sends this photograph has been lost.

September to October 1st. There is ever a demand for these apples for the reason that such apples are scarce in the market at that particular season. Another apple which is eatable in late fall or early winter is the Fameuse or Snow apple. Another early winter apple is the Mellon, an apple of the highest quality, but it is seldom propagated. We have the trees in bearing at Green's Fruit Farm. Duchess holds on quite late in summer, almost up to the time that Blenheim and Fameuse come in. Fall Pippin is in its prime in November and December. My opinion is that there are not enough fall varieties of apples planted to meet the demand of the market. There is so little demand for the trees of fall ripening varieties that nurserymen are not inclined to plant fall apples.

Is A Northern Exposure Preferable for Planting Fruit Trees.

We often hear about the advantages of the northern exposure for fruit trees as being remarkably desirable owing to the fact that peach trees on a northern exposure are retarded in the opening of the buds and a northern exposure is considered preferable, and yet very few successful peach orchards are planted with northern exposure.

It is a fact that snow will lie longer on a northern slope than on an eastern, southern or western slope. Notice the snow lying on the northern slope of a roof or notice that on a rounded flower bed the snow melts first on all sides but the north side. The reason is that the sun's rays fall in a slanting line on the northern slope, but if there were no orchards planted except on northern slopes there would be but few orchards, for there

Clapp's Favorite, Gans, Seckel, Flemish, Lawrence and Kieffer. We cannot help mentioning Kieffer for it is a wonder in its way, a great canning pear, an abundant and early bearer of beautiful fruit, which when well ripened is good enough to eat out of hand, but not to be compared in quality with such pears as Bose, Bartlett or Sheldon.

Which is the Best Yellow Peach Ripening Before Early Crawford?

Fitzgerald is an excellent variety of yellow peach, free stone. It is inclined to overbear. At Green's Fruit Farm the fruit hung in ropes. I never saw peach trees bearing so much fruit, half of which should have been removed by thinning early in the season. As the fruit was not thinned, the size of the fruit was only medium but the quality was excellent.

Crosby is a valuable yellow peach, also liable to overbear. Both Crosby and Fitzgerald have small pits, a very desirable thing in a peach.

A Distinction.

The Smart Set.

"What's the difference between vision and sight?"

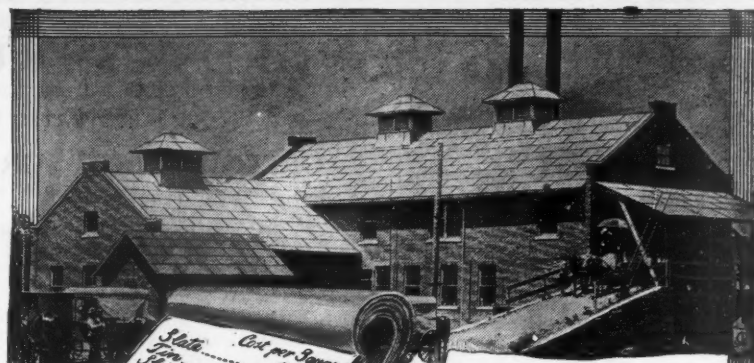
"Well—see those two girls across the street?"

"Yes I."

"The pretty one I should call a vision of loveliness; but the other one—she's a sight!"

Jack's Uncle (coming up on piazza)—"What do you suppose? Jack has just rescued that young widow, Mrs. Wiles, from the surf."

His Aunt—"There! I expected something of the sort. Now we'll have to rescue Jack."—Boston Transcript.



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consists of layer of Asbestos (rock) Felt securely cemented together with Trinidad Lake Asphalt. This makes a ready roofing that is literally a pliable stone—with the everlasting qualities of stone. Sparks or burning brands cannot ignite it. Rain, snow, heat, cold, salt air or chemical fumes cannot injure it.

This roofing is in good condition today on many buildings after more than a quarter century of service. J-M Asbestos Roofing can be used on any type of building. Get it from your dealer. Sold direct if he can't supply you.

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This book contains the latest information about fruit and ornamental trees. In it you will find the facts about varieties; how and when to order; how to unpack and handle trees so as not to lose or stunt any; how to trim roots and branches and all other details of planting. We have a copy waiting your directions as to where to send it.

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A fruit grower's guide book that has met with a warm reception from fruit-interested people. It has almost 150 pages; there are 24 full pages of pictures that help make plain the difficult things. This book tells you what to do and when to do it, and why it ought to be done, so you are not working in the dark. We want agents for this book. Write us for liberal terms, or see below.

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Write us about when you can come to Berlin, about how long you expect to stay and we will arrange for your entertainment at one of the local hotels, free of charge to you.



WELL, IT'S LEAP YEAR.
—Wood in the Kansas City Times.

SAVING STORM-BROKEN TREES. How to Prune Them, Rebud or Re-graft.

Told by Prof. C. I. Lewis of O. A. C. of the Oregon Agricultural College.—When trees have been severely injured by storms or other weather conditions, the first impulse of the orchardist is to rip the trees out. In response to a large number of letters of inquiry regarding the proper handling of the trees broken by the recent thaw.

This would probably be a mistake, since, with all trees except one-year-olds, there is a good root system that, if the trees are cut back properly, can be made to force out a strong, vigorous top.

Often trees injured by freezing in winter or by sour sap and sun-scald in spring, or by rabbits or squirrels, may be cut back in such a way as to force a new top. If the snow or ice has merely broken off the branches, the broken ends should be cut smooth with a sharp instrument, and where there are two or three buds left on a main branch new branches can generally be forced out and a new body be built on the tree.

If the branches are all stripped from the tree, it may be simply cut off below the badly stripped place—in some trees about 18 inches above ground. I have found that occasionally two or three year olds so treated simply feather out, the buds developing clusters of leaves instead of forcing out good leading branches. One must expect to lose a few trees in this way. On the other hand, they sometimes force out strong new laterals.

Another way is to cut back from three to six inches from the ground, when strong laterals may often be forced out, which can be pruned the next year like new trees, giving the benefit of several things. If the tree forces out three or four laterals of about equal strength, these can be headed back and the tree treated like an open center, very low headed tree, and, by in-arching and intertwining all branches that can grow well together such crotches can be made much stronger than otherwise. Often it will be found better to remove all but one of these new sprouts, and prune it as if it were a new tree.

Trees three years old or more should have another treatment. If they have fairly large bodies. If they are rebudded or regrafted one is fairly sure of losing few trees. I would cut the tree back to about a foot from the ground and insert a couple of scions, either by cleft graft or bark graft. These would force out a fine growth which will need close watching the coming year, and should be pruned, by June or early July, heading back the rank terminals to force out desirable laterals and keep the tree low headed.

In cases of sour sap, sunscald, or injury by rabbits and squirrels where the trees are girdled, they may be cut off below the point of injury and good strong shoots will be sent out. The root system of the tree is uninjured and will furnish an enormous amount of sap, and the buds forced out will probably be strong.

Only in rare cases would I take the trees out roots and all. Occasionally when the tops seem badly injured from uncongential weather, the sprouts will be forced out, yet the top remain alive. If it seems to be vigorous I would cut off the sprout at the ground, but if there is question as to the vigor of the top and none at all as to the strength of the sprouts, I would remove the old top and train the sprout into a new tree. If the sprout comes out above the graft, as is usual, grafting will be unnecessary. Rebudding or regrafting to a desired variety will be necessary if the sprouts come out below.

He that by the plow would thrive,
Himself must either hold or drive.—
Poor Richard.

The maxim of Frederick the Great was that his treasure belonged not to himself but to the people who supplied it, and he particular care and interest he showed in the cultivation of the soil produced its speedy improvement. Large tracts of land were rendered arable, and where formerly marsh and moor were generally prevalent, fertile, flourishing cornfields were substituted instead.—Macaulay.

GREEN'S FRUIT GROWER

AN ILLUSTRATED MONTHLY JOURNAL

GREEN'S FRUIT GROWER CO., Publishers

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Entered at Rochester (N. Y.) Post Office as second class mail matter.

CURRENT COMMENT.

Reports that fruit trees in many Wisconsin orchards have been seriously injured by being girdled by rabbits have led Prof. J. G. Moore to issue a statement explaining the methods of saving trees thus injured. He urges that bridge grafting be done in the early spring by binding scions from twigs of last year on healthy trees, across the places where the bark is destroyed.

The important steps in the campaign being conducted for the improvement of horse breeding in the state are outlined in a new bulletin by Dr. A. S. Alexander. Though Wisconsin is considered a dairy state, Dr. Alexander points out that the value of the horses on Jan. 1, 1909, was greater than that of the cows, sheep, swine and mules all together. The average value per head \$107, has increased \$15.35 in the last three years, and can be increased \$10 a head more in the next five years, Dr. Alexander says, by the use of sound stallions and mares. This would add \$7,000,000 to the total value of the horse stock of the state.

By examining the records of 1,600 cows for the past year, I find that 35 per cent. give less than 4,000 pounds; that is, 7 out of every 20 cows scattered over several counties in Ontario could not be said to yield any profit above the cost of feed. These are the type of cows on which good human energy is being wasted. Dairy records show that some cows produce milk at a cost of 65 cents per 100 pounds, while others under the same roof run the cost up to \$1.20. Dairy men should observe the conditions in the business world. The manufacturer knows exactly the cost of his products, but two neighboring milk manufacturers find the cost is 65 cents on one side of the fence and \$1.20 on the other. Could you conceive similar conditions in the manufacturing world?—Fred C. Slater Consul at Sarina, Ontario.

An orchard has a relation to mankind, and readily connects itself with matters of the heart. The trees possess a domestic character. They have lost the wild nature of their forest kindred, and have grown humanized by receiving the care of man as well as contributing to his wants. There is so much individuality of character too among apple trees that it gives them an additional claim to be the object of human interest. One is harsh and crabbed in his manifestation, another gives us fruit as mild as charity. One is churlish and illiberal, evidently grudging the few apples that it bears, another exhausts itself in free-hearted benevolence. And what is more melancholy than the old apple trees that linger about the spot where once stood a homestead, but where there is now only a ruined chimney rising out of a grassy and weed-grown cellar? They offer their fruit to every wayfarer—apples that are bitter sweet with the moral of time's vicissitude.—Hawthorne.

Are Children Worth Saving?

Are the children of the United States worth one-eighth as much as the bugs? Hon. Andrew J. Peters, a member of Congress from Massachusetts, asked this rather startling question at Louisville last Sunday at a mass-meeting on child labor. Mr. Peters showed that the Bureau of Animal Industry costs the country \$1,654,750 a year, and that the Bureau of Plant Industry costs \$2,051,686. The proposed children's bureau would cost \$29,440 and would investigate child labor, infant mortality and other

important phases of child conservation. It is being opposed, of course, by some manufacturers who want to employ babies in cotton mills, coal mines and other places admirably adapted for the growth of mind and body and the development of sturdy American men and women. In some quarters the investigation of child labor is regarded as an unwarranted invasion of personal liberty. Certainly: Public schools were so regarded in their early days. The Journal of the American Medical Association says that no doubt we shall soon have a National League for Juvenile Freedom, secretly financed by the coal and cotton barons, and demanding for the child the right to labor when and where it pleases. In the meantime, if Congress thinks the baby crop is worth as much or one-tenth as much as the fruit crop, a children's bureau should be established without delay.

Have Enthusiasm.

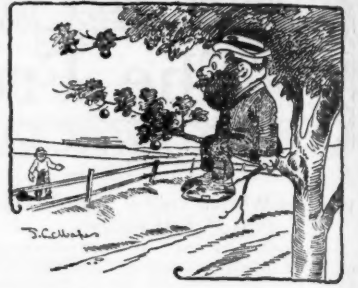
A man who believes with his whole heart and soul that his business is the best business on earth, and proves that belief in every word he says about it is sure to make good, even although he be a plodder, says one of our exchanges. In these days of keen competition and wonderful activity it is necessary for the business man to have enthusiasm. Enthusiasm fuses all a man's business qualities—ability, initiative, knowledge, tact, industry, etc.—into one effective whole.

No one can be truly enthusiastic who does not believe in his business. There are hundreds of business men who complain that fate is against them, their surroundings are poor, or their business is at fault. They are fooling themselves and their friends. They lack the stark of real, vital enthusiasm, and will always remain indifferent merchants. Without enthusiasm a man is only a statue. Real enthusiasm is not to be counterfeited. The imitation article is easily detected. It fails to strike an answering chord and get the responsive throb back that real enthusiasm commands.

Farm Welfare and Human Welfare.

Sixty-two railroad trains, operated by officers of experiment stations of the Department of Agriculture, traveled over 35,000 miles during 1911. Public meetings held by these officers were attended by nearly 1,000,000 persons. Traveling schools to the number of 149 were attended by 40,000 farmers and farmers' boys. Farmers' institutes held 15,000 sessions, attended by 2,000,000 people. These interesting facts and many more appear in the annual report of the director of this department to Secretary Wilson, recently made public. A summary of this report appears in a current newspaper, and, by a peculiar coincidence, in the adjoining column is a summary of the mortality report of the Census Bureau for 1910, issued about the same time. From this it appears, comments The Journal of the American Medical Association, that in the "registration area" tuberculosis killed 86,309 persons in 1910, that 805,412 persons died in the same territory, and that in about one-half of the United States no effort is made to find out how many people die each year, to say nothing of running special trains and holding public meetings or schools to teach the people how to live.

Modern Rural Sewage Disposal.—Here is a question that has disturbed many rural people. What should be done with this sewage of farm homes, hotels and club buildings located in the country



Farmer—What are you doing up there in my apple tree?
Tramp—Fell down here from an airship.

where there are no sewers? The custom has been to drain this sewage of such houses or hotels into the nearest stream or lake, but this method has been discouraged and is likely to be prohibited. The newest method of disposing of sewage is to convey it by sewer pipes into a small cess-pool, then to have six or more outlets to this cess-pool each of smaller size than the main sewer pipe, each spreading out in fan shape. Then there should be means of cutting off the flow of sewage from all these outlet pipes but one, allowing the sewage to pass through one outlet pipe leading into one portion of the land until that portion is well soaked, then to turn the sewage off from that lateral and allow it to pass into the pipe and soil of another section of the land, and so on continuing until all the laterals had been employed. At the end of that time the moisture escaping through the lateral first opened would have been absorbed by the soil and be ready for a fresh supply. By this method a large area can be fertilized without objectionable results.

No one is useless in this world who lightens the burden of it for another.—Charles Dickens.

There has never been but one real religion and that religion is "to be good and do good."—Charles P. Dole.

It is not the smallness of your life, but the quality of it that is important. You cannot be an elm or an oak, but if you are a violet under a maple drinking in the sunshine and the dew, you should be content: for in the providence of God humble lives cheerfully lived have infinite value.—George H. Hepworth.

"When the stampede to the Australian diggings was at its height in 1852, the ignorant emigrants, having heard that the gold was found in quartz, and not knowing that pervasive mineral, supposed it was 'quartz,' and hence expected to gather the gold in pints and pails. This fact was related to me by E. J. Dunn, the Australian geologist, who as a boy went to the diggings at that time.

Timely Hints to the Orchardists.

As the warm days draw near, don't forget to shear your woolly aphids, as I have found this is the only profit the orchardist can get from raising this bird.

As the molting time for cows is here it is well to remember that it is also time to dehorn those young trees. It is well to cut all branches from six to eight inches from the body of the tree, as this leaves a stub for hanging the pail on when gathering the fruit. Some people recommend using paint on the stubs but this is rather expensive. My wife just bought a box at the drug store that I am positive would not paint more than five good sized stubs, and it cost \$1.50, so I would recommend pine pitch or axle grease.

As to as to mulching young trees, I have never found anything near as fine as sawdust. I am trying a few in my own garden and I hope by mulching every year with pine sawdust to soon be raising pineapples on Jonathan trees.

Keep all moisture away from you Ben Davis trees, for it is my candid opinion that this tree, especially on the uplands, can in a few seasons of dry treatment be made to bear dried apples. Just think of the immense profit in picking and shipping dried apples ready for the market without the expense of evaporating. I earnestly urge all fruit growers to give this tree a fair trial.

I am located at Kettle Falls, have had 10 years' experience growing fruit in Alaska. I will gladly answer any question you may ask. Yours for better orchards, I remain.—A. P. Ullmann, Expert.

Fruit Grower Office Notes.

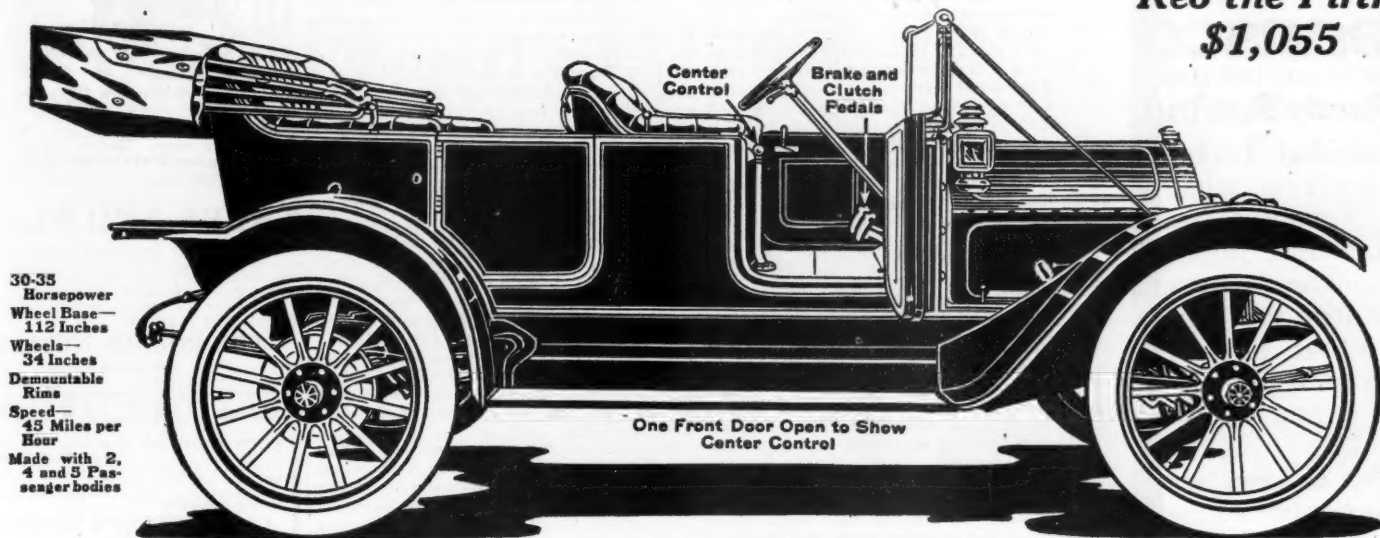
The Editor of this paper is spending a month in Florida.

The advertising manager looks pleasant even if the thermometer is below zero.

The subscription manager has not gone back to the farm yet.

The girls in the Fruit Grower room reports 1574 new subscribers taken on for Jan. 1912.

Reo the Fifth
\$1,055



30-35
Horsepower
Wheel Base—
112 Inches
Wheels—
34 Inches
Dismountable
Rims
Speed—
45 Miles per
Hour
Made with 2,
4 and 5 Pas-
senger bodies

Top and windshield not included in price. We equip this car with mohair top, side curtains and slip-cover, windshield, gas tank and speedometer—all for \$100 extra. Self-starter, if wanted, \$20.00 extra.

The Car That Marks My Limit

By R. E. Olds, Designer

I have no quarrel with men who ask more for their cars—none with men who ask less. I have only to say that, after 25 years—after creating 24 models and building tens of thousands of cars—here's the best I know. I call it My Farewell Car.

I claim for this car no great innovation. The time is past for that.

Thousands of good men, for two decades, have worked at perfecting cars. No man can ever go much further than the best these men have done.

I believe that Reo the Fifth, in every feature, shows the utmost these men have accomplished. It represents, in addition, the best I have learned through 25 years of continuous striving. So it comes, I believe pretty close to finality.

It shows what can be done by modern facilities, by boundless experience, by honesty of purpose, by the genius for taking pains. And that is all that any car at any price can offer.

The Lessons of 25 Years

Where this car excels lies in what I have learned in 25 years of car building.

I've been learning longer than others. I have learned faster than others, because I had more cars out.

That's my chief advantage.

What some think right, I know to be wrong. What some think sufficient, I know to be reckless.

Myriads of cars used by myriads of owners have taught me every possible weakness. They have shown the need for big margins of safety, for exactness, for careful inspection, for laboratory tests.

I Go to Extremes

For every part I know the best steel alloy. To make sure that I get it, I analyze all my steel.

I built a crushing machine of 50 tons' capacity just to test my gears.

My axles have twice the needed strength. My bearings are Timken Roller and Hyatt High Duty.

My carburetor is doubly heated, and adapted to low-grade gasoline. That makes the commonest troubles impossible.

I carry tests and inspections, throughout the construction, to what men call extremes. Those 25 years taught me the need for precautions.

They also have taught me that men love beautiful cars. My bodies are finished with 17 coats. My lamps are enameled—my engine nickel trimmed.

The upholstery is deep, and of hair-filled genuine leather.

The wheel base is long, the wheels are large, the car is over-tired. I avoid all the petty economies.

New Center Control

The gear shifting is done by that center "cane handle." It moves only three inches in each of four directions to change to every speed and reverse.

There are no side levers. Both of the brakes, also the clutch, are operated by the foot pedals. The doors are free from obstructions.

The driver may sit—as he should sit—on the left hand side, close to the cars which he passes. With the old lever controls this was impossible, save in electric cars.

Price, \$1,055 the Only Sensation

My greatest achievement, in my estimation, is the price on this new car. No other car begins to compete with it.

This is due to automatic machinery—to enormous production—to making all parts in one factory. It is due to building only one chassis in all this great plant. It is due to small selling cost, and to a very small profit.

But this price is not fixed. This initial price of \$1,055 is the minimum. It is based on today's low cost for materials. It is figured on a doubled output, due to this new creation.

If costs advance our price must advance. But we shall keep it this low just as long as is possible. That is better, we think, than fixing the price for six months in advance, and leaving big margin to do it.

My Supreme Effort

Reo the Fifth marks my limit. Better materials are impossible, better workmanship out of the question. Better features or devices, if they exist, are still unknown to me.

More care or skill or quality is beyond my capability. At twice the price I could build no better car. If others can, they are better men than I.

Ask for Catalog

Ask for our catalog, showing the various bodies and stating all the facts. We will tell you then where to see the car.

Reo the Fifth, my finest creation, will interest every motor car lover. Ask for the book to-day. Address

R. M. Owen & Co. General Sales Agents for Reo Motor Car Co., Lansing, Mich.

Canadian Factory, St. Catharines, Ontario



Fertilizers for Strawberries.

Eugene Romain of N. J. asks for information in regard to enriching the soil in which strawberry plants are growing.

C. A. Green's Reply: Generally speaking, strawberry plants, raspberry, blackberry, currant and gooseberry plants and fruit trees, such as apple, peach, pear, plum and quince, feed upon the same fertility as do the various grains and other farm crops. Thus stable manure is a good fertilizer for all fruits and all farm crops. As stable manure contains phosphoric acid, potash and nitrate, which are the most valuable ingredients of commercial fertilizers, you can readily see that the phosphates, so-called, applied by farmers on farm crops will also help in fertilizing all of the fruits.



DEALERS in fertilizers who have prepared special fertilizers for certain farm or fruit crops under the supposition that certain crops require more potash than others, and that certain other crops require more phosphoric acid or nitrate, but to prepare such special fertilizers is a difficult problem. Rest assured that

Mr. Hoffman is eighty years old, and he says he remembers his grandmother speaking about the "old vine." The vine is located near an old well, and its branches distribute well over a frame extending from one end of the farmhouse to the other, bearing a rich foliage, says New York Tribune. The vine is twenty-two inches in circumference at its base. Four feet from the ground it is even thicker, and here it begins to branch out into three parts by the time it reaches the grape arbor. Across the street from the Hoffman farm stands a church, built in 1801, on the site where the Lutheran Swedes erected their first church, as early as 1693, upon land granted by William Penn, a tract of ten thousand acres, then known as Mananthanin, now called Douglassville. It was the first church in Berks County, and by some it is believed that this grapevine was planted by those early Swedes who settled this region in great numbers from 1693 to 1705.—H. Winslow Fegley, Reading, Penn.

Soil for Currants and Gooseberries.

A subscriber at Wolcott, N. Y., asks what kind of soil is best adapted for currants and gooseberries. Currants and gooseberries will succeed on almost any soil that will produce corn and potatoes,



CHERRY TREE WHICH BORE FRUIT THE FIRST YEAR PLANTED

Edgar W. Roberts of the state of Washington, sends us the above remarkable photograph of a cherry tree which he thinks is the Late Duke, which last year bore fifteen pounds of fine large cherries. The tree is now nine feet high and has nine limbs. This tree has never received any extra care or attention. The cherry is a remarkable fruit. It is only recently that many people have learned that it is one of the most profitable fruits. An acre of cherry trees will produce many tons of delicious and healthful fruit, which usually finds a ready market at profitable prices. Cherry trees should be trained low so that the fruit can be easily gathered. How can twenty-five cents be better invested than in buying and planting a cherry tree?

stable manure contains all of these properties. Wood ashes are also a good fertilizer for all fruits and for most farm crops also.

At Green's Fruit Farm we mulch the strawberry rows by covering them from sight with a light layer or sprinkling of straw stable manure. In many instances this is all the fertility we give our fertile strawberry plantations, but I suspect that it would be a great help if a complete commercial fertilizer were scattered among the plants in June, or nitrate of soda, whether newly planted or otherwise.

Remember that fresh stable manure cannot be absorbed by growing plants of any kind. It must be dissolved, it must decay, before it can be taken up by plants as plant food, therefore the ideal time to manure ground intended to be occupied by strawberries is to apply barnyard manure freely the season previous to planting the strawberries, growing upon the plot a crop of potatoes which leave the land in fine tilt and free from weeds.

An Old Grapevine.

This particular vine is located in the farmyard of Benneville C. Hoffman, of Douglassville, Berks County, Penn.

but if I were to have my choice I would select a soil with some clay in it, which I call a clayey loam, but not stiff clay such as that used for making bricks. Good crops of currants and gooseberries can be grown on sandy soil.

He asks how many pounds the bushes ought to bear at four years old, and how many pounds at ten years old, which are questions that no person can answer. All I can say is that currants and gooseberries are profitable crops. I should prefer to take my chances on currants rather than gooseberries, as there are many more people who consume currants than there are that buy or consume gooseberries. Both currants and gooseberries will bear twice as much under the management of some men as they will others. I do not consider currants and gooseberries better crops than raspberries, except that raspberries must be picked immediately when ripe, whereas currants and gooseberries can be picked more at your leisure. Your local canning factory can inform you what kind of fruit they are most likely to need in their business.

Yes, peaches are a good crop and a profitable one to grow near Rochester, N. Y. Plant peaches on elevated ground and give clean cultivation.

EVERYTHING for the GARDEN

is the title of our 1912 catalogue—the most beautiful and complete horticultural publication of the day—really a book of 204 pages, 5 colored plates and over 800 photo engravings, showing actual results without exaggeration. It is a mine of information of everything in Gardening either for pleasure or profit and embodies the results of over sixty-two years of practical experience.

To give this catalogue the largest possible distribution we make the following liberal offer:

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In addition, all ordering from this advertisement will receive a copy of our new Garden Guide and Record. This is a handbook of general garden information, planting tables, cooking receipts, cultural directions, etc., etc., and in all is one of the most necessary and valuable of our many publications.

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CORTLANDT ST.
NEW YORK CITY



Protect Your Orchard from Wind-Storms with Evergreen Breaks

On the tenth of last September the owner of a 20-acre orchard turned down an offer of \$15,000 for a fine crop of fruit on the trees.

Two days later a windstorm blew off three-fourths of the apples and damaged most of those remaining so that the whole crop brought only \$5,300.

An Evergreen Windbreak costing under \$100 would have prevented 90 per cent. of those apples from falling—a saving of \$9,700 in one year.

Is your orchard at the mercy of the wind? Then it needs a shelter belt as quick as you can grow one. With it you can spray on windy days, too.

We grow more evergreens than any other firm in the world—as well as hardy fruit trees, and ornamentals.

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D. HILL NURSERY COMPANY, Inc.

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MYERS SPRAY PUMPS

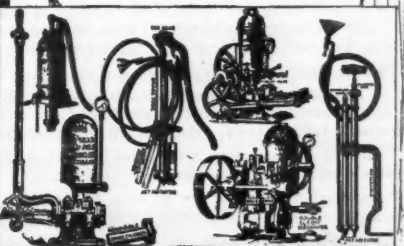
Now is the time to think about Spring Spraying and Myers Spray Pumps. Spraying is now compulsory in many states; is advised and urged by Experimental Stations, and is given careful consideration at all County and State Grange Roundups and Farmers Institutes, so that there is no longer any question about the absolute necessity of spraying at the right time in order to obtain proper results and Perfect Fruit.

Spring Spraying starts in February and March.

Some spray even earlier. To get the best results you must be prepared to spray the Myers Way with a Myers Outfit—Bucket, Barrel or Power—according to your spraying requirement.

You are not indifferent to the advantages of

Successful Spraying, but you may not be properly equipped. Get in touch with us for convincing information. Write for our new Spray Catalog which, besides giving you valuable information concerning the proper methods and time for spraying, formulas, etc., also illustrates and describes an unequalled line of Spray Pumps, Spray Nozzles, Pipe Extensions and Spray Accessories—A Line For Every Spraying Need.



F. E. MYERS & BRO.
150 ORANGE STREET - ASHLAND, OHIO.

A Round-Up

Since the Government authorities have begun to "Round-Up" a few of the men who have so long brought odium upon the name of honest labor, I have been urged by some editors to publicly define the reasons for my seven years' newspaper campaign on the tyrannies of many Labor Union Leaders.

Some men endow colleges. Others build libraries.

Both educational.

I preferred to devote to newspapers my contributions toward education, warning the people to protect themselves against the greatest, most tyrannical and dangerous trust this country has ever seen.

Especially insidious and dangerous, because its inner plans were not understood by the average citizen who, seeing no immediate slavery to himself, peacefully followed his own pursuits and blindly allowed the self-seeking labor Leaders (?) to weave their web stronger as time went on. Not one word in my entire campaign has been uttered against peaceful trade associations.

I have only tried to defend the several million honest and law-abiding workmen who protest against the bullying and abuse of those in power.

No one seemed to sympathize with the few thousand widows and orphans of the men murdered while faithfully trying to earn a living under God's permission but against the "orders" of the "Labor Trust." So I tried to present their cause from time to time.

The healthy average common citizen is perhaps deserving of at least some of the inconvenience and loss put on him from strikes and other labor leaders' tyranny as a reward for his indifference.

I knew years ago that the plan of this big labor trust was to ultimately gain control over every workman, clerk and employe in the U. S., including farm hands and government employes.

This has been partly accomplished in some localities; then followed acts which clearly show the intent.

First, to harvest initiation fees, sometimes up to \$100.00 each to "join the union."

Next, monthly dues. Say \$2,500.00 a month in a town with 10,000 "members" at 25 cents each.

Next, "fines" assessed for some infraction of "rules."

Then the lash of the slave driver came forth. Orders to strike; what to buy; what not to buy; how to vote; when to parade (to show power); and to contribute from the hard-earned pay envelope for strike benefits to other men forced into idleness pending negotiations between crooked leaders (?) and crooked employers who hire said leaders to call strikes on competitive jobs, thus making the workmen tools, kept idle while the chiefs scrap for control or bribe money.

One of the hardest strokes of the lash is the money forced from members to defend dynamiters, sluggers and murderers when caught.

But let an honest workman, who, perchance, has been driven into "the union," dare to disobey one of these "orders" and he is taught a lesson through the slugging or dynamiting committees.

The slavery of the honest American workman is pitiable when "closed shop" full control is obtained by the tyrannical leaders.

Now observe the plan of this gang to govern men and affairs.

"Organize" every trade. Insist on closed shop. Then use the power of numbers to induce government officials to permit organizing all government employes. Some of the oaths defining that the union rules shall "precede Church, State and Family."

Then force Congressmen to pass anti-injunction laws to prevent courts from stopping proposed outrages.

Force merchants to hire only "union" clerks and sell only "label" goods. Use union funds to support slugging and dynamiting crews to drive back the protesting ones or "remove" them.

Of course, in carrying out the plan for complete control by the gang, some were caught.

Whenever openly exposed the men "higher up" immediately begin to assess members to protect the criminals and always rush into print with loud cries and much mock sentiment about "the brotherhood of man" and the "defense of the wage worker," with such play upon the sympathy of the people they cover their own greed for fees and insane desire to read their names in the papers.

It would be hard to convince the widows of the twenty-one murdered men in the Los Angeles tragedy, and hundreds of others, that their husbands received much benefit from "the defense of the wage worker," nor could they well understand such working of that particular brand of the "brotherhood of man" scheme.

Late events have stripped the lamb's coat from the body of the wolf and shown most clearly the lying deceit and horrible portent underneath, which I have tried time and again to explain to the public.

Men who preferred to work and support their families have been waylaid. Fingers chopped off, with the comforting assurance that "now you can set type if you will." Crow bars and heavy weights dropped on heads. Fathers beaten unconscious and many times crippled for life; little homes blown up and many and many a corpse brought to the destitute family.

These are not "occasional cases." Such crimes run literally into the thousands, and judges and juries have been threatened with death, bribed, and witnesses slugged or put out of the way.

In the Government cases now pending the witnesses must be guarded from the agents of the "Labor Trust" with its tentacles reaching to the most remote corners of our country.

Don't permit yourself to be misled by the vaporings of sentimental, drooling degenerates who assert that these murders are justified because "society" has oppressed workingmen.

In no other country in the world are they paid as high, and as much earnest effort devoted to their welfare. Nor is there as abundant opportunity in any other country in the world for workmen to gain fortunes.

Our great railroads and industries are largely headed by former wage earners.

These murders are instigated by that class of men, always in evidence, who hate success. They coolly and cruelly plan and execute assaults and murders to satisfy their own hate and show their power over the slaves who dare protest. The nightly talk of strikes, given in many a union meeting, develops the hate and murderous instinct which waits only for opportunity to carry out.

Take the Los Angeles case as an illustration. The Times had withstood about 16 years of all kinds of attacks, not because its faithful employes were underpaid. They received wages higher than the union scale, but they refused to bow down and place themselves under control of "the gang", hence they were persistently assailed and finally 21 were murdered. These men only asked to be let alone to support their families, but union leaders determined to rule over them, hence the murders.

The whole set-up of the leaders of the great "Labor Trust," the American Federation of Labor, points toward a diabolically adroit plan to secure to those leaders complete control over their own members who dare not protest, and also over all other workmen, legislators, congressmen, merchants and the balance of citizens.

Think it over and you will see in part what the tyranny would be if they were permitted to completely carry out their plans.

Now that the facts are known the people can protect themselves by refusing to do any act that would add power to this aggregation.

Remember, any act.

When their grip on the throat of honest labor is broken, working men can either select better leaders, or join some of the law-abiding trade organizations.

I was not driven to write this series of articles by reason of disagreements with my own thousand workmen. No troubles have arisen between us.

They have had fifty-two weeks a year steady work for many years, are a contented, high-grade class receiving the best wages in Michigan for like service, and protected from the frequent onslaughts of these "Labor Leaders" (?).

Mr. Gompers has repeatedly announced in public that I sought to destroy all organizations of labor.

This is in line with his regular habit of distorting facts. I have for a long time been a member of the National Association of Stationary Engineers and the National Trades and Workers Association. These are non-strike and peaceful organizations which negotiate their trade agreements legally, with peace and honor.

I have given to the Trades and Workers Association a \$400,000.00 home for their old members in furtherance of an honest desire to help solve this most important industrial question.

In addition, I have offered to contribute a quarter of a million dollars cash to help along a workingman's movement, as defined in a letter sent Mr. Gompers December 11, 1911. Copy herewith.

December 11, 1911.

Mr. Samuel Gompers, Pres., American Federation of Labor,
Washington, D. C.

Dear Sir:—

Press reports indicate that you are greatly depressed and harassed by fear and the disrepute brought on your Federation.

The query has arisen whether you are big enough to sense the movement of a great Power which guides humanity, and to conclude that the time has arrived when "Labor" should be honestly represented instead of misrepresented.

If the thought of truthful and earnest effort has come, and you honestly desire better conditions for the wage earners, may I tender to you an invitation to come out to Battle Creek for a conference with the President of the Trades and Workers Association, Mr. J. W. Bryce?

If you will permit it, your expenses will be paid from the time you leave Washington until you return.

You will be put up at the Sanitarium for a week or ten days' rest and freedom from worry, as a guest, either of the Association or of myself, as you prefer.

When rested, let us consider the new movement for the workingmen of America, enlisted under the banner of the National Trades and Workers Association, free from strikes, slugging, picketing, tyranny, fines, dynamiting and murder.

Belonging to the American Federation of Labor are hundreds of thousands of self-respecting and law-abiding workmen who are members under pressure, and who deplore the tactics you and your associates have employed and forced upon them.

They want steady employment fifty-two weeks in the year and do not relish being forced by strikes into idleness pending the "negotiations" between crooked labor leaders seeking bribes, and crooked employers who hire said leaders to call strikes on competitive jobs, thus making the workingmen tools kept idle while the chiefs scrap for control or bribe money.

You will perhaps reject this proposal, believing that strikes are a necessary weapon to preserve the rights of workingmen. But the new way has been in very successful operation over two years and found to have more power than the old way.

The honorable Brotherhood of Locomotive Engineers, The National Association of Stationary Engineers and the National Trades and Workers Association perfect trade agreements without strikes, secure the highest wages and yet preserve the respect and esteem of employers and of the members themselves.

Workingmen are aroused to resentment from being forced to contribute from their hard earned pay envelopes to defend known sluggers and murders, and to being heavily fined for not obeying the orders of leaders when they know those leaders are simply using them to insure complete dominion over the daily lives of the American workman.

He seeks to maintain his position as an honest, peaceful citizen and not to be forced to affiliate with and support thugs and murderers.

Personally, I have only sincere and open denunciation for the past methods of you and your associates. Nevertheless, if you are ready to join in an earnest and truthful step forward for your members and will accept this invitation in the spirit in which it is given, you will be most welcome, and will be treated with the greatest consideration we are capable of, and in addition I will agree to contribute a quarter of a million dollars in cash to the new movement.

The Trades and Workers now have a splendid \$400,000.00 home to care for their indigent members, and with the addition of the members of the American Federation of Labor and its endowment we can merit the support of the public, all working for the new day of peace with honor in the industrial field.

Yours very truly,

C. W. POST.

No reply has been received. It seems evident the present Leaders will not accept any offer of industrial peace which takes from them the fees, control of workmen, and curbs their trust methods.

When any combination either of Capital or Labor goes outside its own business and attempts to oppress, tyrannize, or forcibly dictate to others and thereby "restrains trade" it becomes dangerous and should be prosecuted.

Talk about restraint of trade!

All the capital trusts in this country couldn't bring about a minus fraction of the loss, inconvenience, misery and crime set in motion by strike conspirators.

The time has come when every home-owning patriotic citizen should speak in most unmistakable terms, if liberty is to be preserved.

Write President Taft asking when he will apply the law to the Labor Trust as well as the Capital Trusts.

Then write your members of Congress, telling them clearly that you will expect them to protect yourself and other common, every-day citizens by voting down the bills the Labor Trust leaders are pressing to give them more control.

One is a bill to prevent courts from issuing restraining orders to stop proposed acts of violence in strikes. Another is to allow labor leaders to restrain trade without being subject to the law.

You are one of a tremendous majority but you must tell your public officials your needs. Then they can act in your defense.

Then question candidates and don't accept any equivocal answers.

Insist that trade organization can be peacefully conducted and that no laws be enacted giving leaders arbitrary control over the masses.

A few of the facts are now known and have been proven true. Many more will follow as the government investigation proceeds. Will you be patriotic and painstaking enough to write, talk and vote for your own safety?

My work in the way of public and expensive paid announcements on this subject is done.

There's a Reason,

C. W. POST.



Letters From the People.

"Prudent questioning is the half of knowledge.—Proverb.

What Crop Pays Best.

Mr. Charles A. Green:—I am submitting a proposition to seven nurserymen to obtain their opinion as to the most valuable crop that can be raised to the acre of a rich black loam, new ground, well tilled, soil located in central Ohio. I had in mind one of the three celery, cucumbers, asparagus, or onions for a garden crop, and grapes or apples for a permanent crop.

We have a farm of two hundred acres and we want to make the most out of it.—Harry Leonard, Ohio.

C. A. Green's Reply: Of all vegetables my preference for profit would be asparagus, which sells readily at fabulous prices, and prepared ready for the table is a great delicacy, not only throughout the country towns and the farms but in the large cities. I have never known a surplus of asparagus in Rochester, yet we are surrounded with productive gardens where it is grown.

When it comes to deciding which is the most profitable fruit, we should have to separate the small from the large fruits. Under proper conditions there is no small fruit that will bring in more money than the strawberry.

Under most favorable conditions there is no fruit that will bring in more money than the peach, but considering the short life of the peach tree and its being less certain of bearing a crop than the apple, I must declare the apple to be the most profitable of all large northern fruits.

But notwithstanding the above opinion, if I were starting a fruit farm today I would plan to do the same as I did when I started Green's Fruit Farm thirty years ago. My plan then was to plant and grow all the hardy small fruits, strawberry, blackberry, red and black raspberry, currant, gooseberry and grape, and also the apple, peach, pear, plum, cherry and quince, starting in a small way, increasing my plantings each year as I increased in skill and experience.

Prof. Van Deman and Dr. Warder.

Green's Fruit Grower:—I am a city man who has "hiked" to the country and am doing what I can to grow fruit on the beautiful Ohio River, 90 miles from Cincinnati. I take many farm papers but none are so valuable to me as yours. The trees I purchased from you last year were the best I have ever received from any nursery; every one perfect, clean, good sprouts; no culls or crooked trees in the lot. Prof. Van Deman's articles and advice are worth a great deal to one not up to growing fruit. He refers to a Dr. Warder sometimes. I have a book on fruit growing, "Hooker's Western Fruit Book," which was written by my wife's Grandfather E. J. Hooper in 1856. The book was dedicated to Dr. John A. Warder, and today is a valuable book.—S. C. Reiley, Ky.

About Village of Rush, N. Y.

Mr. C. A. Green:—My husband has been much interested in reading your articles in "Green's Fruit Grower" relating to your early life in Rush, N. Y.

That was his early home and he well remembers the scenes you described. He would like to know what relation you bear to Nathaniel Green and John Green.

Did you know Theodore Wyman, Silas and Lyman Delano, Mr. Goodnow (shoemaker) and C. S. Cookingham, is W. H. C.'s brother. My husband's first teacher was Israel Cookingham, his cousin, in the years '51 and '52. He remembers the swamp near Honeoye Creek, not far from Rush. He remembers eating Golden Sweet from John Green's orchard and thinks they were the best apples he ever ate.

He thinks he attended school in the same old school house as yourself. What year did you attend?

He is much interested in your early autobiography and would be pleased to have you answer these inquiries. We will accept your special offer for the Fruit Grower in our next. (Mrs.) W. H. Cookingham, Ill.

C. A. Green's Reply: Dear Madam: In reply to your interesting letter I would say that we have a number of subscribers like yourself who used to live in Rush but are now living in distant states, but who are still eager to hear about the little village of their nativity.

Nathaniel and Nathan Green were my uncles. John Green married my Aunt Jerusha. The other names of former old citizens which you mention are all familiar

to me, but as I was so much younger I have not a vivid recollection of their personality. Isaac Gibbard, who married Louise Smith, died last fall in this city. I have not seen a Golden Sweet since I left Rush nearly forty years ago.

I attended both the Rush Village school and the old cobblestone schoolhouse two miles northeast of Rush near my father's old farm, later owned by Thomas Lyons. I attended school there for ten years previous to 1860.

I am pleased to hear that you subscribe for my publication, which is published at an expense of over \$75,000 a year.

Green's Fruit Grower is the Magazine He Likes Best.

Editor Green's Fruit Grower:—Having purchased a small truck and fruit farm on the Eastern Shore of Maryland, it naturally follows that I am now more interested than ever in the contents of the different journals as they make their appearance, and I have subscribed for several that I considered the most helpful to me under the conditions that I will be called upon to face in my new home.

To be perfectly frank with you I had not intended including your magazine in the number, until the January number came and I found to my delight that the articles on the home grounds and their beautifying, were just exactly what I was in need of and worth the price of a good many years subscription, so am enclosing same under this cover.

I have had a good many years experience with farm life in this state, but have never had any with planting to beautify the home grounds, although I have of late studied all I could find on the subject, and I am writing this more particularly to ask you if I should send you a sketch of the house and grounds that I have bought if you could fill in an outline of how you would advise the planting of trees and shrubbery, and what the charges would be to me for your so doing.

I have in a rough way an idea of what I want to do and would outline same to you and show fences, road, trees, etc., on the sketch, but I realize all too well that it is not with shrubbery like buildings that can be changed to suit at almost any time, while the trees and plants should be placed right at first.—Thomas Steele, N. Y.

C. A. Green's Reply: Accept thanks for your very kind and encouraging letter. I have put a large portion of my life into the Fruit Grower and realize that I have done much to beautify and enrich the earth by encouraging others to plant fruits, which under proper conditions is the most profitable way of occupying the soil.

While I will gladly make a few lines of suggestion in regard to your place, it will be difficult to do more than suggest since I have not seen your place and do not know of its surroundings and the slope of the grounds, etc.

The general line of my suggestions would be that when possible the walks and drives should be curved, even though it is possible to give them only a slight curve, and that the planting of trees should be on the outskirts in wavering lines, and that the shrubs should be planted in groups in front of these clumps of trees, also in curved or wavering lines, and that the corners should be filled in and thus rounded, that beds of flowers should be placed near these groups of trees and shrubs, and that wide expanses should be left open undisturbed by shrub or tree for the lawn, locating the vegetable and fruit garden at the rear of the house.

Usually the street line in front of the house should be filled with trees or shrubs so as to prevent an outlook from the house to the street. Generally a low-growing hedge like California privet or yellow cedar (Arbor Vitae) is planted on the street line in front of the house and not allowed to grow over two or three feet high.

C. A. Green:—I am about to plant dwarf pear trees of the Duchess variety and the land is of clay loam but poor, having no barn yard compost. Would you suggest the use of artificial fertilizers to encourage growth. Would small quantities of nitrate of soda help some, and when would be the proper time to apply.—C. B. K., Ohio.

C. A. Green's Reply: Plant the dwarf pear trees without applying any fertilizer. After the trees are planted you can enrich the entire plot of land or scatter your fertilizer, whatever it is, over the surface of the ground, a little farther than the roots extend. Throw a fork full of manure around each tree on the surface of the ground after planting. Never apply any fertilizer in contact with the roots.

To succeed in the other trades, capacity must be shown; in the law, concealment of it will do.

Why Not Get the BEST Spray Pump?

Why try to do good spraying—thorough spraying—the only kind worth while—with cheap tools? Don't waste your money and time on a cheap spray pump—get a

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Goulds Sprayers are designed and built to give the best service and to last. They develop, with a minimum of effort, the power needed to force the spray into every crack and crevice. All parts are made to resist the action of spray chemicals—one reason they last. You can choose from our line to meet every spraying requirement.

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SOLD OFF THIS ORCHARD LAST SEASON. SPRAYED WITH

**THE "New-Way" GEAR DRIVEN
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YOU CAN DO AS WELL AS THIS

We have given our "NEW WAY" gear driven power sprayer a thorough trial this year. We carry four lines of hose up to 200 pounds pressure continuously, and spray 200 gallons of solution in 30 minutes.

I give you below the figures regarding our fruit crop:

APPLE CROP		PEAR CROP	
Acreage	180	Acreage	8
Yield in bbls.	5500	Yield in bbls.	500
Value	\$22,000.00	Value	\$2,000.00

I have 80 acres of Ben Davis, rest are York Imperials and Jonathans. I have shipped 15 carloads and have 3 carloads to go yet. My fruit is in the best possible condition, not a bit wormy, and I have the best orchard in Illinois.

Yours very truly,
JOHN W. WALLS, Superintendent.

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Our Price for Material to Build This House **\$635** **Our Price for Material to Build This House**



House Design No. 130
 13 ft. 10 in. x 29 ft. 6 in.; 8 rooms and entry, vestibule and large hall. A solid, substantial construction. All its advantages are utilized. All its windows and porch columns are distinctive. For convenience and artistic general appearance, and this house is unequalled.

House Design No. 149
 The Mansard roof construction of this design enables the owner to utilize all space to the best advantage and get the very most to be had for the money. Size 21 ft. wide and 28 ft. deep six rooms, bath and basement. This design offers more convenience than many larger and higher priced houses. It is constructed of very best materials at a great saving.

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ing apparatus—gas and lighting fixtures—light both acetylene and electric, and in fact every item into the construction of a building. We have building every purpose, whether you wish to construct a barn, residence, office building, store building, corner meeting house.

ing you too strongly to note the importance of this if you cannot make the trip to Chicago yourself and to send, **MERELY MAIL US YOUR COMPLETE BUILDING LIST FOR OUR LOW FREIGHT ESTIMATE.** In every instance we will name you a new prevailing market quotations. We will explain we are figuring on so plainly that you cannot but un-

osition is backed by a guarantee so broad and binding as possible chance for you to make a mistake. This is a capital stock and surplus in excess of \$1,500,000.00. and private banking in this country is acquainted with.

require cash in advance—our special and liberal terms perfectly.

your list to-day and you will be amazed that every word of our advertisement represents actual

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At prices ranging from \$42.00 to \$200.00, they are strictly new, first class and complete in every detail. It makes no difference whether you live in the country, you can enjoy every convenience at little expense. Why not investigate? We are ready to furnish you with all the facts free of charge.

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Mr. V. Michaelson, Supt. of our Great Paint Dept., is probably the best known paint man in the world. His picture has appeared on millions of gallons of cans. He is our guarantee of quality. Our Ready Mixed "Premier" Brand of Paints are made under a special formula and will give the best service and satisfaction. Our prices range from \$1.08 to \$1.24, depending upon quantity.

Our "PREMIER" Barn Paint is an ideal protection for barns, roofs, fences, outhouses and all general purposes. This is a paint in which Mr. Michaelson has put all his personality. Comes in green, maroon, yellow, lead, red and slate.

In 1 gallon cans, per gallon 82c
 In 25 gallon cans, 1/2 barrel, per gallon 72c

Write to-day for our Great Color Card and prices.

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If you will make the trip to our institution at 35th & Iron Sts., at Chicago, you will be convinced that every word we say about our wonderful institution is the real truth—that in fact we have not painted the picture strong enough—that our institution is greater by far than you ever had any idea. If you will come, we will show you in stock all the various articles offered in this advertisement, besides a wonderful additional quantity of general merchandise. Our business includes 23 great departments, and they are all situated at our main headquarters. We have everything—in fact from a needle to a locomotive.

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Concrete Block Machinery Catalog Our Great Concrete Block Machinery Catalog describes the latest and best machines manufactured. Our prices 30 per cent less than others ask for Machinery of equal quality. Includes practically everything needed to turn out the very finest and best Concrete Blocks. Also tells about our Mixers.

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If you buy any goods from us that are not fully up to our representations in every way—or if they fail to come up to the expectations that our literature and language have lead you to expect—then, at our expense for carriage both ways, we will take back any such unsatisfactory merchandise or material and refund you the full purchase price, in addition to the carrying charges. All we ask is that you promptly advise us of any dissatisfaction, and we promise you fair, square, manly advice, and the opportunity to return the goods as mentioned above.

Our capital stock and surplus is in excess of \$1,500,000.00. We refer you to the publisher of this or any other paper—to any express company—to any of the commercial agencies—to any of the leading financial institutions, and more especially to our Chicago depositories—the Drovers Deposit National Bank, the great Chicago Stock Yards institution; or to the Continental and Commercial National Bank, the largest financial institution in the West.

Our price for material to build this barn **\$580** **Our price for material to build this barn** **\$639**



Our Joist Frame Barn No. 221
 Size, 36 ft. by 48 ft. Height to top of roof, 38 ft. 6 in. The most practical and serviceable barn ever designed. No heavy timber in the entire structure. Self-supporting roof. No joists in hay-loft. This design represents strength, rigidity, economy of construction, and is absolutely dependable and substantial. Write us for more complete information.

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 Size, 30 ft. wide and 60 ft. long, 18 ft. to top of the plate. A barn arranged exclusively for horses. Has 12 single stalls, 5 ft. each, and 6 double stalls, 10 ft. each. Ten foot driveway. Can also be used as a horse and a cattle barn and will accommodate 12 horses and 18 head of cattle. A building of brand new high grade materials, dependable construction, sanitary—generally convenient throughout.

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Best Quality Barbed Wire at Wrecking Prices We bought from enormous stock at an exceedingly low price.

Smooth Galvanized Wire, Per 100 Lbs., \$1.25 Lot No. A. D.

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Kill San Jose Scale, Apple Scab, Fungus, lice, bugs and other enemies of vegetation by spraying with
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Does not harm the trees—fertilizes the soil and aids healthy growth. Used and endorsed by U. S. Dept. of Agriculture. FREE—Our valuable book on Tree and Plant Diseases. Write for it today.
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Makes hard work easy. Sprays high or low branches with ease. No climbing, no hose to drag, no extension rod to hold. Mount it on any farm wagon or power outfit. Dismount and set it up again in 1 minute.
Send your address on a postal card right now. I want to tell you more about it.
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Spraying Compulsory by Law in Ohio.

During the last General Assembly of Ohio, a compulsory spraying law was enacted which will compel everyone in the State who has fruit trees to spray.

The Spraying Law is as follows, Senate Bill No. 183, passed May 31, 1911.
Section 1. One year from the passage of this act each owner or manager of an orchard consisting of ten or more fruit trees shall spray or cause to be sprayed said trees one or more times during the period from November first to April thirtieth with some suitable preparation for the destruction of San Jose, Oyster Shell or Scurvy Scale.

Section 2. Whoever knowingly permits a violation of this act shall be fined not less than twenty-five (\$25.00) nor more than one hundred (\$100.00) dollars for each year such spraying is not performed.

What Manure For Fruits.

Reply to Chas. E. Hoffman of Oswego Co., N. Y. You ask whether hog manure is a good fertilizer for black raspberries, also whether ground stone lime is good.

Reply: Black raspberries and in fact all the small fruits and all the large fruits will respond to any fertilizer that will be helpful to a growth of corn, a growth of potatoes or of wheat. The food of plants, vines and trees is very much the same as the food of common farm crops. There is a variation in the plant food of corn and wheat or potatoes and likewise a variation of the plant food required for raspberries, blackberries, grapes, apples, peaches or pears, but after all there is great similarity in the plant food of all these different crops. For instance, wood ashes are a fertilizer for all kinds of grain crops and likewise a fertilizer for all kinds of fruit crops. The same is true of nitrate of soda and phosphoric acid. These fertilizers are available for all the grain crops and for all the fruit crops.

You ask whether it would be desirable to place rotten leaves under trees and grape vines when they are planted. Rotten leaves, or leaves that are not rotten, make a good fertilizer, and also make a splendid mulch, and are helpful if placed on the surface of the ground after the vines or trees are planted. The mistake made by many people is in placing these leaves or manure in contact with the roots, or beneath the roots of trees or vines, when they are planting them. This is the cause of the loss of thousands of trees and vines every planting season. Our readers should bear in mind that no manure or fertilizer of any kind should come in contact with the roots of trees when the trees or vines are planted.

Big Game.

In India, at least, big game is in no immediate danger of extinction. Last year, by the figures lately published, 110,386 were killed, but 24,878 persons were killed by wild beasts, and the number of human victims is rising steadily, says Springfield Republican. However, 22,478 of them were killed by snakes, which can hardly be called game. Of the quadrupeds the tiger is in fact as in reputation the most terrible, being responsible for 853 deaths, while but 1,421 tigers were killed. Some have called the leopard more dangerous, but last year his victims were 351, not much more than the 319 devoured by the wolf pack. India is a very old and a very densely populated country, but much of it is still given over to the jungle, especially on the east side of the plateau. Moreover, the natives are, for the most part, unarmed, and too poor to buy guns, so that a man-eater may ravage the country-side for some time before he is disposed of. Specially dreaded is a vicious elephant. But 23 were killed in 1910, but 55 persons were killed by elephants.

Wise Sayings of Big Men.

Selected for Green's Fruit Grower
By D. H. Christophel.

There are a number of us creep into this world to eat and sleep. And know no reason why they're born, But merely to consume the corn, Devour the cattle, fowl and fish, And leave behind an empty dish; Though crows and ravens do the same, Unlucky birds of hateful name; Ravens or crows might fill their places And swallow corn or carcasses, Then on their tombstones, if they die, Be not taught to flatter and to lie, There's nothing better will be said Than that they've ate up all their bread, Drank up their drink, and gone to bed.—Horace.

No experience drawn from the exercise of the art of agriculture can be opposed to its true scientific principles, because the latter should include all the results of practical operations, and are in some instances solely derived therefrom.

Theory must correspond with experience because it is nothing more than the reduction of a series of phenomena to their last causes.—Liebig.

Man's true vocation is to cultivate the soil.—Napoleon.

Moreover the profit of the earth is for all; the king himself is served by the field.—Ecclesiastes.

A man of knowledge, like a rich soil, feeds, If not a world of corn, a world of weeds.—Poor Richard.

Farmers are in partnership with all labor. They should join hands with all the sons and daughters of toil, and remember that all who work belong to the same noble family.—Ingersoll.

There are certain pursuits which, if not wholly poetic and true, do at least suggest a nobler and fairer relation to nature than we know. The keeping of bees, for instance, is a very slight interference. It is like directing the sunbeams.—Thoreau.

Whoever can make two ears of corn or two blades of grass to grow upon a spot of ground, where only one grew before, deserves better of mankind and does more essential service to his country than the whole race of politicians put together.—Dean Swift.

It is a strange thing that the producer of raw material has thus far in the history of the world taken a subordinate place to the trader in this material and the fabricator of it.—Prof. L. H. Bailey. And I will add "to the shippers of produce."—C. A. Green.

Countries are not cultivated in proportion to their fertility, but to their liberty, and if we make an imaginary division of the earth, we shall be astonished to see in most ages deserts in the most fruitful parts, and great nations in those where nature seems to refuse everything.—Montesque.

Some Home Made Butytudes.

By Unkel Dudley.

Blessed is the man who seeks not fur ofis fur he shal not be aflikted with the politukil ich an shal sav himself much wernes ov mind an body.

Blessed ar thay who ar in ofis, fur thay kan feed at the publik krib.

Blessed ar the profeshunul politishuns, fur Satun wil look out fur them, an giv them a place in his kingdom.

Blessed is the home whar luv ruls, fur happines shal dwel thar.

Blessed ar the ole maids who hev kep sweet thru ol their disapintments, fur thay wil be lik a ra ov sunshine whar thay dwel.

Blessed ar the hird maids who want bows an husbands, fur thay wil let their employures do the wurk while thay go out huntin fur them.

Blessed iz the farmur who maks farmin er daily biznis, fur he shal receive good dividens.

Blessed is the lawyur who wil not tel er li fur 64 cents, but wil tel 16 fur er dolur, fur he shal hev grate sukses.

Blessed ar the doktors who kure ol akes an pains with operashuns fur apendicetus, fur thay shal ad meny dolurs tu their pile.

Blessed ar the hier kritiks, fur theirs iz the kingdom ov Satun, an thay shal enjoi hiz presuns forever.

Blessed ar the chuch members who hev fursaken the way ov the Lord, fur thay shal inherit the joys ov sheol.

Blessed ar the dekuns who swar an cheet an wurk Sunday, fur thay shal hev er seat on Satun's band wagon.

Blessed ar thay who ar born a the kingdom ov God, fur thay wil be er power fur good wharever thay go.

Blessed ar thay who daly hide in the Rock of Ages, fur the storms ov life shal not move them, an joy an pece shal be theirs forever.

Blessed ar thay who win souls fur the Master, fur thay shal shine az the stars thru the eternal ages.

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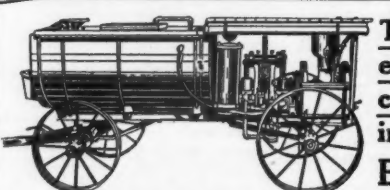
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Kitchenettes.

If the house is infested with ants, dip a sponge into sweetened water and lay it where they can get at it. They will soon cluster upon it, and the sponge can then be dropped in hot water.

Cookies put into an earthen jar lined with a clean cloth, while they are still hot, and kept covered close, will be much more melting and crumbly than if they are allowed to cool in the air.

If a gas stove is not equipped with a broiler, try heating a pan piping hot. Put the steak into this without greasing and turn as soon as it is heated on the bottom. Keep turning till the meat is done.

A mixture of finely powdered fuller's earth and alum is excellent for cleaning white gloves. It should be rubbed in well, then brushed off and the gloves sprinkled with dry bran and whiting.

Pine Nut Caramels.—Make some fondant as previously described, melt it, and add sufficient unsweetened chocolate, also melted, to tint and flavor pleasantly; pour into a lightly oiled or buttered tin to the depth of about one-third of an inch—it is intended to be very thin. While warm sprinkle pignolia or pine nuts over the surface. When cold, cut into two-inch squares with a sharp knife.

Deviled Almonds.—Blanch four ounces of Jordan almonds; when they are dry heat a little sweet olive oil in a small enameled frying pan, put in the almonds and stir them about till all are delicately brown. Turn them out on a piece of soft brown paper and sprinkle them lightly with cayenne pepper, taking care that not too much is used, and that it is evenly distributed by shaking the nuts briskly.

Cocoanut Dates.—Grate half of a fresh cocoanut; take six ounces of sifted icing sugar and add to it sufficient white of egg and water in equal quantities, about two tablespoonfuls altogether to mix it to a paste; sprinkle in the grated cocoanut, of which there should be enough to make the mixture quite stiff. Remove the seeds from some fine dates and fill the cavity thus left with small portions of the cocoanut. Set aside for an hour or two to harden slightly.

Sea foam calls for half a cupful of corn syrup, three cupfuls of granulated sugar and two-thirds cupful of water. Cook to the soft ball stage and turn gradually over the stiffly beaten whites of two eggs, beating all the time until it is stiff enough to keep its shape, and then beat in a cupful of broken nut meats. Turn the candy into loaf-shaped tins and when cold cut in squares.

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PITY FOR THE FARMERS WIFE.
The Little Affairs of Life.

A Montezuma valley man asked his wife why she looked so discontented. "Why?" replied the woman. "Because the sight of these dishes makes me sick! It does! What have I got to live for? Here the world is full of places I'd like to go and things I'd like to do. There are hundreds of things I'd like to think if I dared. There's books, and there's travel, and there's music, and there's making friends who could be friends. I can't have them. You can't get the money to give them to me and I haven't the time for them even if you could. I haven't time for anything except washing dishes—and I'm sick of washing dishes!"

COMMENTS BY C. A. GREEN.

The above letter to the Denver Field and Farm is one with which many readers of Green's Fruit Grower will be in sympathy. Here we have an intelligent and ambitious wife desiring to be free from the slavery of the kitchen. It is such a common thing for the wife of many farmers and fruit growers and many other people to spend nearly all of her time in the kitchen washing dishes and preparing food, but little is thought of it by men or by the public at large.

I have ever sympathized with the worker in the kitchen, whether she be the wife or a paid servant. I have ever urged my wife to pay liberal wages for household service, telling her that I had no fears that the servant would get too much pay. The servant arises on winter mornings before daylight, kindles her fire and prepares breakfast. After each meal there is the monotonous washing of dishes, continuing from day to day and year to year. Eleven hundred times each year must the dishes be washed. No sooner is this and other similar duties performed in the morning than preparations must be begun for the next meal. After the noon meal the same monotonous dishwashing is continued and preparation for the evening meal. After this the dishwashing comes again, leaving the tired housekeeper but little opportunity for rest until eight or nine o'clock. This service embraces on the average about fourteen hours a day. Such work can be called very without exaggeration.

But the worst feature of this domestic service is that in many instances the kitchen maid has no associates, no pastimes, nothing to divert her mind from the monotonous work which she is compelled to do over and over again each day throughout the year.

In the case presented above it is the wife who does this kitchen work. The wife has more relief from the monotony of her work than the housemaid in one respect, for she has companionship in her husband and children, whereas the kitchen maid as a rule has none, yet here is the wife complaining of her work, as she may do with justice.

It has been observed by many that women age faster than men. The question is why should this be so. The answer is not far to seek. In order to keep young we must interest ourselves in beautiful things, in pictures, in landscapes, in music and in association with bright people. We must have relief from monotony. On our farms the husband gets away from home and mixes with other people far more than the wife. He must go to market, he must visit the village or city for supplies, he must go there to vote and to pay his taxes. The husband is continually called upon to move about and naturally sees what is going on in the world at conventions and farmer's institutes and fairs, whereas it is rare that the farmer's wife leaves home except to call upon a neighbor or attend church.

The cry of this woman in the above letter is pitiful, and it is the cry of the average farmer's wife. I am fully in sympathy with this cry and would gladly say something or do something to alleviate the condition of the farmer's wife.

Years ago I was about to employ an assistant editor and was wondering how I could test this man's ability. I walked with him some distance to the street car which he was to take, and on our way to the car we saw approaching a plainly clad, careworn, weary looking woman riding alone in a dilapidated wagon, to which one aged and bony horse was at-

tached. Then it was that my newly made assistant struck a note that touched my heart and made it manifest that in one respect at least he was qualified for the position to which I intended to promote him.

"What," he exclaimed, "can we do for such farmer's wives as we see in yonder wagon?"

My mother was from the age of twenty to nearly the time of her death a farmer's wife. She has told me of her toil and sacrifices in early life in helping to pay for the homestead farm. She said that in those days she rocked the cradle with one foot while with both hands she rubbed at the washtub. She was the chambermaid and the cook for the household, which consisted of father, children and a number of sturdy hired men. Her only recreation was in occasional visits to neighbors, possibly a monthly visit to the city, and her attendance at church where she sang each week as a member of the choir. In addition to all the duties my mother had to perform, in some families of that day there was thread to be spun and cloth to be woven, not only for the family clothing but the table and bed linen as well.

I know what it is to be a farmer's wife. I urge upon farmers, upon the sons and daughters of farmers, and upon all who are interested that they give this subject serious thought. It is a question of greater importance than who is to be selected for president of the United States next year. Pure food laws are of great importance but they will not compare with this of the farmer's wife and her work. The increasing cost of living is discussed by almost everyone, but it is of little consequence compared with the condition of the farmer's wife.

Household Notes.

Vinegar is a good thing to remove stains from zinc table tops.

In watering plants a little sweet milk added will often benefit them.

A common large screw serves very well as a pie crimper if pressed firmly along the edge of the crust.

When baking a "prize-pie" rub sweet milk over the top and make it smooth and even before baking.

For a fern that is not thriving, put a little castor oil around the edge of the pot, in a trench, and watch developments.

Fill halved peaches with whipped cream and put grated macaroons over the top, or dot the cream with candied violets.

Wood alcohol is excellent to clean a fine gold chain, if the chain is soaked in it for half an hour and then well brushed.

A good way to toast bread is to use a regular corn popper. The long handle enables one to stand back from the heat.

A good way to remove mildew from white material is to make a thick paste of table salt and butter and put in the hot sun for a day.

For a much-used ironing board make two slips of heavy, unbleached cotton cloth and use alternately to keep the board fresh and clean.

Wagon grease or wax spots from candles should be scraped off and lard applied. Bensine, naphtha, gasoline and chloroform dissolve grease.

We guess that English people do not know the joys of peach ice cream and peach shortcake. The best peaches in the English market sell at two shillings (about 48 cents) a piece, and these—hot-house grown—have not the fine flavor that the American peach has, ripened in the open air. The first time, it is said, that the luscious fruit produced in this country was placed on the English market was when recently peaches were shipped from the Wenatchee valley in Washington State to London. The fruit was delivered thirteen days after shipment, having been sent in refrigerator cars attached to mail trains to New York, and thence forwarded by fast steamer to England. The English have tasted peaches from Ontario, Canada, but the American fruit is much finer and those who had the money to buy the western peaches must have enjoyed a delightful gustatorial sensation.



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Patterns for Women Who Sew.

- 5434—Girls' Empire Coat. Cut in sizes 4, 6, 8, 10 and 12 years. Age 8 requires 2½ yards of 44-inch material, 2½ yards of braid.
- 2508—Ladies' Kitchen Apron. 4 sizes, 32, 36, 40 and 44 inches bust measure. For 36 bust, it requires 4½ yards 27 inches wide.
- 3866—Ladies' Shirt Waist. 9 sizes, 32 to 48 inches bust measure. For 36 bust, it requires 3½ yards 27 inches wide.
- 5555—Ladies' Three Piece Skirt. Cut in 5 sizes, 22 to 30 inches waist measure. Size 24 measures 2½ yards around lower edge and requires 2½ yards of 50-inch material, 2 yards of 27-inch contrasting goods.
- 5506—Girls' Dress With Body and Sleeves in One and closed at Back. Cut in sizes 6, 8, 10 and 12 years. Age 8 requires 2½ yards of 36-inch material.
- 5178—Ladies' Tucked Waist. Cut in 6 sizes, 32 to 42 inches, bust measure. Size 36 requires 2 yards of 36-inch material for the waist and 1 yard of the same width for the guimpe; 1½ yards of 18-inch all-over.
- 5503—Ladies' Dress Having six Gored Skirt. Cut in 6 sizes, 32 to 42 inches bust measure. Size 36 requires 5½ yards of 36-inch material without up and down.
- 5470—Children's French Dress. Cut in sizes, 2, 4 and 6 years. Age 4 requires of one material 1½ yards of 36-inch material.
- 5520—Children's Yoke Dress. Cut in sizes, 2, 4 and 6 years. Age 4 requires 2 yards of 36-inch material; ½ yard of 18-inch all-over.
- 5448—Ladies' Six Gored Skirt—Empire or Regulation Waistline. Cut in 5 sizes, 22 to 30 inches waist measure. Size 24, measures 2½ yards around lower edge and requires 2½ yards of 50-inch material.
- 5263—Boys' Russian Suit. 3 sizes, 2, 4 and 6 years. The 4-year size requires 2½ yards of 36-inch material.
- 5504—Ladies' 55-inch Length Coat. Cut in 6 sizes, 32 to 42 inches bust measure. The 36-inch size requires 6½ yards of 36, or 4½ yards of 50-inch material, 3½ yards of braid.

5310—Girls' Plaited Dress. Cut in sizes, 2, 4, 6, 8 and 10 years. The 8-year size requires 3½ yards of 27, or 2½ yards of 36-inch material.

5441—Ladies' Four Gored Skirt. Cut in 5 sizes, 22 to 30 inches waist measure. Size 24, measures 3½ yards around lower edge and requires 4½ yards of 44-inch material; 1½ yards of braid.

1006—Ladies' Closed Drawers. 9 sizes, 20 to 36 inches waist measure. For 24 waist it requires 1½ yards of 36-inch goods, with 2½ yards edging.

Patterns 10c. each. Order patterns by number, and give size in inches. Address Green's Fruit Grower Co., Rochester, N. Y.

Hints to Housekeepers.

An exceedingly pretty dish and one that nearly every one likes may be made from cottage cheese, or smearcase. After seasoning, mould it into balls with the hands, make them pear shaped or perfectly round and stick into the top a spray of parsley. These may be placed in individual dishes or put upon a platter garnished with the parsley. If preferred, each may be placed daintily upon a lettuce leaf.

To remove mildew, mix soft soap with powdered starch, two parts, and salt, one part, and the juice of a lemon to a paste. Spread it on both sides of the cloth and lay on the grass until stain disappears.

Horseradish is delicious and healthful, but most people are affected disagreeably by the fumes while grating it; the unpleasantness can be almost entirely overcome by putting it through the meat grinder.

To clean cane chairs wash with hot water until they are well soaked, and use soap if necessary. Dry them in the sun and the seats will become as tight as when new.

Wash all your combs twice a week in warm water in which has been dissolved one tablespoonful of borax to each quart of water. Rinse by holding them under the cold water faucet and allowing the water to run through with force.

When making paste in large quantities, if washing soda be added it will stick better, especially if it is to be used for wall papering.

When boiling fish, or crabs, add a large sprig of parsley, a small white onion, and half a cup of vinegar to the water; it improves the flavor greatly.

Buckwheat Cakes That Husbands Like.

The Woman's Home Companion has been collecting recipes of the favorite dishes of husbands. In the December issue a number of these recipes are published, including one for buckwheat cakes. It is said to be an extraordinary recipe and is furnished by a woman in Massachusetts:

"Four cupfuls of warm water, 2 table-spoonfuls of molasses, nearly 3 cupfuls of buckwheat-meal, 1 teaspoonful of salt, nearly 1 cupful of Indian meal, and ½ cake of compressed yeast. Scald the Indian meal with just enough water to swell it. When cool, add this to the buckwheat with the measure of warm water; beat till all are well mixed. To this add salt, molasses, and yeast, which should be dissolved in a little water. Beat all together for five or six minutes, set in a warm place to rise overnight. A pitcher is very convenient to pour the batter from when making the cakes. Cover the pitcher containing the batter with a thick cloth overnight. In the morning beat well, and set the batter near the fire for a second rising. Buckwheats are not perfection without soda, which should be added whether the cakes are sour or not, but not till just before they are baked. When the breakfast is on the table, dissolve 1 even teaspoonful of soda in a little warm water, stir it well into the batter, and cook at once. Serve the cakes as quickly as possible from the griddle. Indian meal makes buckwheats more tender than flour. They are much better made with milk than water."

In Korea.—Mr. Ku felt great pride in Korean women as wives. Their fidelity and meekness toward their husbands were admirable. They would never oppose the word of their husbands, and the only care of their whole life was how best their husbands could be pleased. Their attention to the food and all other comforts of their husbands was faultless, and their sympathy for and kindness to their husbands were to such a degree that few Japanese ladies could imagine it. A Korean wife would feel little regret in parting with her finger-rings and holiday clothes in order to treat the friends of her husband. In a word, Korean women would sacrifice all, body and soul, to their husbands.

Mr. Ku recalled the experience of a certain Japanese gentleman who is now a peer. One winter that gentleman visited Seoul, and engaged a Korean maid-servant. She was a very kindly girl, and served her master faithfully, even sacrificing much of her sleep to him.

The gentleman one day talked to Mr. Ku of the fidelity of the Korean girl in very high terms, and added that she was kinder than his wife at home.

Mr. Ku expressed his earnest hope that Japanese women would learn a lesson from the Korean idea of wifehood and by their reformed attitude toward their husbands inspire in the Korean masculine mind some desire to marry Japanese girls.

Dahlias—New and Old.

Written for Green's Fruit Grower
By Mrs. H. A. Tate.

Few people who have never seen them realize the beauty of the new types of Dahlias. One who does not know hardly recognizes them as dahlias, so debonair, so dainty are the new cactus types with the beautifully quilled, claw-shaped, incurved petals. There is no other flower that gives the quantity of bloom or the diversity of color. The shading too is exquisite and not to be excelled even in the rose kingdom itself.

Some of the decorative class are immense in size, measuring eight and nine inches across. Even the old class of shows (the ones our grandmothers had) are much improved, or much larger and fuller, also showing wonderful stripes and markings, sometimes showing three distinct colors on one flower. Visitors in my gardens for the first time hold up hands of wonder: "Oh, did you ever!" "Oh, the grandeur of the colors!" "I never thought there could be so many blossoms. Let's count a stalk!" Well, we did and there were eighty-three perfect blossoms not counting buds or withered blossoms or where they had been cut off, and then they would hardly believe it still.

One little woman had her arms full (not hands, arms) and was still picking. "Mary, Mary!" remonstrated her husband "Haven't you got enough?"

"No, no, I haven't got one like this, nor this, nor—"

"But you have all you can carry." "Why, you can walk back and I'll take the buggy full. This is the first time I've ever been told to pick all the flowers I wanted and I just must do it."

"Aren't these big red Decoratives grand? I just love them!" cried another.

"I think the creamy colored ones are prettiest. No, I guess it is this pale pink with the white tips. Oh, this golden one with the smoky tips. Or, here is the daintiest white one! No orchid could be daintier."

So many ask "Are they hard to grow?" Are they much trouble?"

They are less trouble than any other flower if you call care of flowers "trouble." Certainly much less trouble than roses with their dozens of insect pests. And I think them easier to grow than any other flower, and I have grown almost every kind on earth at some time or other. The older harder kinds will grow almost anywhere and without any care at all. This last dry summer when all other flowers had succumbed to the drought, two bunches of dahlias bloomed sitting on top of the ground under a tree where I had left them when dividing up to plant.

The dwarfed growing varieties make splendid bedding plants and bloom more than Cannas. The taller kinds make beautiful hedges planted along a fence, and the daintier, more tender kinds make lovely pot plants where one has no room for them out of doors.

They will grow in any kind of soil, clay, loam or sand. Rich soil, plenty of sunshine and water and thorough cultivation bring the best results of course, but I have seen the hardier kinds growing and blooming in very adverse circumstances. If you want a lot of bloom for a small outlay of time, labor and space, plant Dahlias.

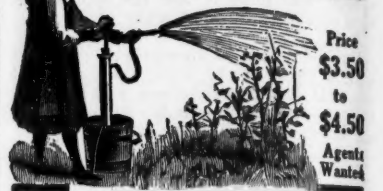
Southern Ways of Cooking Hominy.

Hominy is an old-time favorite in the South. The art of making it was taught the people by the Indians. There is little of the original hominy—that is, the large white grains obtained by thrashing the yellow Indian corn until the hard yellow husk peels off. But this—when boiled a long time in plenty of water until swollen to double the original size and white as snow—is fit to grace the table of the epicure. Northerners know little of the real food value of hominy, and have to cultivate a taste for lye hominy. Breakfast hominy is the large grains broken into rather small pieces. Hominy grits are still finer. Both make delicious breakfast cereals.

To Boil Hominy.—Always soak hominy over night. First wash it well, then put it into two quarts cold water and let it soak. In the morning turn all into a saucepan and let boil gently for about four hours. Serve with good cream and sugar, or eat with butter and salt, or sugar.

Cut the peel of a lemon very thin (only the yellow part) put 5 to 6 pieces on the forehead especially where the pain is intense holding each piece until it adheres to the skin. When the peeling will drop also the headache with it. This is a French remedy and a very good one.—M. Gerard, La.

Spray with the Comet for Surest Results



Comet Sprayers are Easiest to Operate
Simplest in construction—foot Rest is attached or detached instantly—Have complete Agitator and Brass Screen which prevent clogging of pump. This double acting spray throws a continuous stream 50 feet or spray fine as a mist. The fruit saved from a choice tree will more than pay for it. You need it for your orchard, vines, lawns and plants. Very durable—all brass. Weighs only 5 pounds. Thousands of fruit growers and farmers have proved it a success. Just try it for applying liquid poisons, fertilizers, etc. The results will surprise you. Best proposition for agents. Send us a postal for full information about this superior sprayer now. Get after the tree and plant pests early and make more money.

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Send your name and address for 12 pieces of jewelry to sell at 10c each. Return \$1.20 when sold; we will positively send these 4 beautiful rings free.

FREE We give this beautiful finished signet bracelet, guaranteed 5 yrs., also signet ring for setting 20 pks. postcard still 10c each per pkg. Write for 20 pks. today.

PALACE MFG. CO., Dept. 267, Chicago

Better than the Grindstone.

Everybody hates the grindstone. For centuries it has been a symbol for back-breaking work. The very hardship of sharpening a tool by this slow old fashioned method is the reason so many farmers are content to get along with dull tools. Their sickles are only half sharp, their discs almost stay on top of the ground before the season is done, the ax is blunt most of the time and the chisels and plow points have hardly ever the right sort of an edge. All this is because the grindstone is so slow and requires so much effort.

The discovery of the new sharpening substance Dime-Grit has changed all this. It is particularly adapted to steel and leaves a smooth cutting edge.

This new grinding substance is mounted on a foot power machine, makes it the ideal sharpening device. The machine is made entirely of steel, with shaft drive enclosed gearing and dust proof bearings. It can be run by either foot or engine power.

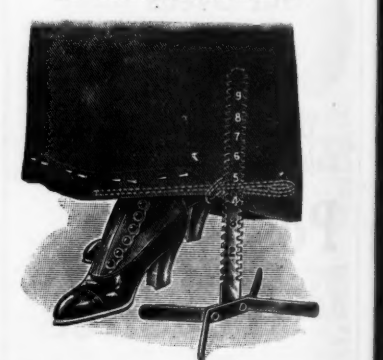
The machine is also fitted with a great number of attachments that will be found of immense use on any farm. A boring device enables any sized hole to be drilled through iron or any other metal. The jig saw and circle saw attachments will do any work within the range of a manpower machine. It also has a skate sharpener and an attachment for accurately holding chisels and plane bits and for sharpening twist drills.

A flexible shaft carries a grinding wheel so that the knives of ensilage and feed cutters can be sharpened without taking them from the machine. This attachment can also be used with clippers for sheep shearing and horse clipping. Besides this the flutes on a corn husker can be kept sharp easily; in fact, this attachment is used any place where it is easier to apply the wheel direct to the work in hand than to take out the blades or knives in order to sharpen them.

This machine is by the Luther Grinding Mfg. Co., of 265 A Stroh Bldg., Milwaukee, Wis.

THE EZY-HEM SKIRT GAUGE

NO MORE UNEVEN SKIRTS



It is light in weight and can be adjusted instantly to turn hem any height from floor, and when the hem is turned the skirt will "hang right" all around. Will save its cost on one skirt, but it will last a lifetime, because there is nothing to break or wear out, about it.

DIRECTIONS:—Set gauge on the floor so that the skirt will fall over the standard, making it come under or inside of the skirt. Fold the goods under so that the wire arm will come inside the fold and pin the hem in place, slide the gauge along and repeat. Stand on a book or other object to raise yourself off the floor a little for long skirts, stand gauge on a book or other object for extra short or children's skirts.

Given with one year subscription to Green's Fruit Grower. Price 50 cents; address Green's Fruit Grower, Rochester, N. Y.

HOW TO GET BETTER LIGHT

From KEROSENE (Coal Oil)

Recent test by Prof. Rogers, Lewis Institute, Chicago, on leading oil-burning lamps show the Aladdin Mantle Lamp is the most economical and gives over twice as much light as the Rayo and other lamps tested. It is odorless, safe, clean, noiseless. Better light than gas or electric. Fully guaranteed. Our burners fit your old lamps. Ask for Catalogue M and learn how to get **ONE LAMP OR BURNER FREE**

AGENTS: Ball sold over 1000 on money back guarantee; not one returned. Burners sold \$2.00 in 10 days. Ask for liberal agency proposition. Sample lamp furnished.

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The Bearing Age of Apple Trees.

J. S. W., New Jersey: Can the bearing age of all varieties of apples be predicted with certainty? Is there such a record available?

Reply: While there is no record you can depend on absolutely to give you the bearing age of trees, there are certain well known facts regarding the habits of different varieties which may be accepted as reasonable guides. No one can tell you exactly when trees will come into bearing because this is in a measure conditioned upon soil and treatment. You will learn that the bearing age of trees might be considerably deferred by heavy annual pruning which would stimulate the tree to excessive wood growth, and when this condition is under way we cannot expect fruit bud development to take place, says Tribune and Farmer.

In general, apple trees may be thrown into two classes: those which are early varieties coming into bearing comparatively young, and those which are late maturing varieties coming into bearing relatively slowly. There are exceptions, however, as the Ben Davis is a long keeper, yet an early bearing variety. Among the distinctly early bearing kinds are the Transparent, the Duchess, the Wealthy and the Alexander. Among the slow bearing kinds are the Spy, the Greening, the Baldwin, the King and the Non-such. The first class of early bearing varieties may be expected to give fruit in from four to six years, while the slow bearing winter kinds do not produce crops in this section under eight or nine years old. These, then, are approximations which will be modified by soil, climate and treatment.

Spray Calendar.

1. Dormant Spraying. Just as buds begin to show green.
Lime-sulphur
San Jose Scale 1-8
Blister Mite 1-11
Add arsenate of lead, 2 lbs. to 50 gals. for Bud Moth and Case Bearer.
2. First Scab Spraying. Just before blossoms open.
Lime-sulphur 1-40
Add arsenate of lead, 2 lbs. to 50 gals. for Bud Moth, Case Bearer, and Canker Worm.
(If fruit tree Leaf Folder is troublesome double the amount of poison.)
3. Second Scab Spraying. Just as petals fall.
Lime-sulphur 1-40
Add arsenate of lead, 2 lbs. to 50 gals. for Codling Moth.
4. Third Scab Spraying. Three weeks after petals fall.
Lime-sulphur 1-40.
Add arsenate of lead, 2 lbs. to 50 gals. for Codling Moth.
5. Late Scab Spraying. Nine to ten weeks after petals fall. (About latter part of July or first of August.)
Lime-sulphur 1-40.
Add arsenate of lead, 2 lbs. to 50 gals. for second brood of Codling Moth.

The illipe nut, known locally in the Straits Settlements as the "bidji sink-awang," is used to manufacture oil similar to lard and is edible. There are two crops a year, one large and one small. The large crop is now (August 12th) nearly finished and a new crop will come in from March to June, 1912.

Editor Green's Fruit Grower:—After reading Mr. A. Manly's article in your Dec. issue on arsenate of lead, I wish to say, that his experience and mine, differ widely. I have helped mix and use arsenate of lead over two tons in the last two years and have never seen either man or animal poisoned from the falling spray. In some instances we have mixed our lead with our hands. Perhaps Mr. Manly used his lead stronger than we did. We use eight pounds to about forty gallons of water, spraying for elm beetles. No doubt if the lead got into ones mouth it would poison them. We use a compressed air pump in a light business wagon. The horse was always hitched to the wagon and never was covered with a blanket. The horse as well as the men have been covered with lead while in use, and I never heard of any one complaining of being poisoned. As far as poisoning from external use is concerned, I have every reason to disbelieve it. As a matter of fact, we all ought to know that if arsenate of lead wasn't poison it would be useless to use it for killing pests.

I have been a subscriber to your paper for three years and enjoy reading it very much. I hope you will find room to print this in your next issue.—Roland E. Baker, Conn.

Waxsmith Buys a Harness and Proposes to a Widow.

"At that time I was driving a skittish horse and was paying attentions to the Widow Kegman, the wealthiest woman in this part of the country. Everything looked as though there would be a wed-

ding in the near future. But when you worked off that patent releaser on me and fastened it to my buggy the stuff was all off. That invention of yours robbed me of a bride any man might envy.

"I took the widow for a drive and was just asking her the all-important question when your old releaser went off without anybody touching it and the horse galloped away, while the buggy backed down an embankment a quarter of a mile high and dumped us both into the creek. "The widow not only turned me down after that, but her brother came along and beat me up with a club. And yet you have the nerve to come in here making a fuss because your old india rubber horse couldn't wear a tailor made harness!"

No Fire There.

Mrs. Snicker—I suppose he promised to go through fire and water for you?

Mrs. Ticker—Yes, and now he won't even water the plants.—Harper's Bazar.

The Electric Farm.

Farming by electricity is by no means uncommon in Europe and is making strides in Canada. The electric plow handles 25 to 30 acres a day at low cost.

One of the best examples of what electricity will do to lift the burden of toil from the farmer's back is shown on the place of Eli Crosiar near Utica, Illinois.

Mr. Crosiar gets his power from a nearby creek. His plant cost \$2,500, including motors, cream separators and all other apparatus. He lights his house and barn; supplies the house with heat by means of luminous radiators; saws his wood, hoists his grain, churns his butter and finally milks his 26 cows all by electricity. His wife sits in the parlor and turns the switches in response to his ring from the barn. "And the cows prefer to be milked the electric way," he says. Fine for the fellow who has the price of an electric farm, isn't it? But not so fine for the fellow who is looking for a job sawing wood or milking cows!

Those who believe that, in time, natural forces and machinery are destined to do all the hard and dirty work, and that when that time comes a way will be found to make us all citizens of a world of comfort and beauty, contemplate the "electric milkmaid" with considerable satisfaction.—Los Angeles Record.

Gold Bricks.—Two gold bars received at the United States assay office in Seattle, recently, are the largest gold bars ever seen at that office. One bar weighed 1730 troy ounces and was valued at \$31,000. The other weighed 1684 troy ounces and was valued at \$30,300. The bars were sent from Fairbanks, Alaska.

None of these gold bricks has been received by Green's Fruit Grower at Rochester, N. Y. Subscribers come in later each year. Publishers generally need more gold bricks—more backing, more encouragement from subscribers.

A New Tropical Fruit.

An interesting tree which has produced fruit in America this year for the first time is *Strychnos spinosa*, native to South Africa. The seeds were obtained in Lourenco Marques, Portuguese East Africa, by Messrs. Lathrop and Fairchild, in 1903, and a tree grown in Florida has come into fruit this year. The Bureau of Plant Industry describes the fruit as being two to three inches in diameter, round, yellow when ripe, and hard shelled, with a flavor like "cinnamon and pears."



TREE TANGLEFOOT, a harmless sticky substance applied directly to tree trunks. Remains effective rain or shine three months and longer, fully exposed to weather. One pound makes about 9 linear feet of band. No apparatus required, easily applied with wooden paddle. Especially recommended against gypsy, brown-tail and tussock moth caterpillars, bag worms, canker worms and climbing cut worms, but equally effective against any climbing pest. Tree Tanglefoot needs no mixing. It is always ready for use. Do not wait until you see the insects. Band your trees early and get best results.

Price: 1-lb. cans, 30c; 3-lb. cans, 85c; 10-lb. cans, \$2.65; 20-lb. cans, \$4.80.

The O. & W. THUM COMPANY, Grand Rapids, Mich.
Manufacturers of Tanglefoot Fly Paper and Tree Tanglefoot. Send for Booklet.

The Bidwell Automatic Sprayer

Combines Efficiency with Economy of labor and materials. Strong, high-grade, brass and copper, portable, with pressure gauge. Same pump for both air and liquid; one pumping discharges entire contents. Produces a finer spray and uses less materials, and is equipped with our

WINKLE MIST NOZZLE
the celebrated power sprayer nozzle which distributes the spray more evenly than any other nozzle on the market—and cannot clog. Try Winkle Mist Nozzles on your power sprayer. Write for free catalog and booklet on spraying.

TYLER MANUFACTURING CO., 76 Cortland St. Rochester, N. Y.

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One Man Can Make 300 to 600 Perfect Tile a Day WITH OUR FARMERS' CEMENT TILE MACHINE

at a cost of \$3 to \$5 per 1000. The only farm tile machine that does not require hand tamping; the only farmers' machine operated by either hand or power. Machine makes 3, 4, 5, 6 and 8 inch tile, 12 1/2 inches long. Our Patented Water-Proof FLEXIBLE CASING holds tile in perfect shape till set. No Pallets. If after 10 days' trial it does not meet with entire satisfaction, return at our expense. The price of the machine will be saved in making your first 2000 tile. Can You Afford to Be Without It? Write today for illustrated catalogue.

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The Best Way to Cook Lime and Sulphur Solution

For spraying fruit trees, shrubs, etc., cook your lime and sulphur solution in a Heesen Kettle; it cooks quickest—uses less fuel, and costs least.

HEESEN KETTLES

are used by thousands of fruit farmers, who endorse them as the best and most practical device money can buy—not only best for cooking spraying solution, but handy for a hundred other uses. Splendid for cooking for stock feed—set on the ground anywhere—no foundation required. Sizes 15, 20, 30, 40, 55, 65 and 75 gallon. Write at once for full information and low price, or send order for size wanted.

Heesen Bros. & Co., Box 82, Tecumseh, Mich.

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NO MONEY IN ADVANCE—NO BANK DEPOSIT—PAY AFTER IT HAS PAID FOR ITSELF.

LET US SEND YOU ANY OF THESE SPRAYERS—to try for 10 days, then if you buy, you can pay us cash or we'll wait till next fall for our money.—The extra profit will more than pay for it. We pay freight. LOWEST PRICES. HIGHEST QUALITY. 5 YEAR GUARANTEE.



Quality Sprayers for every purpose. Man Power and Horse Power for field and orchards. Barrel and Power Sprayers all give high pressure and produce vapors that kills scale, prevents blight and scab, and rid crops of all fungus and insect pests. Hurst Sprayers have brass ball valves and all the working parts that come in contact with the solution are made of brass. Cyclone agitation insures an even distribution of the spraying materials and best results. These sprayers are practical, made by men who know the needs of the fruit grower and farmer and know what a sprayer should do. Our long experience in the manufacture of sprayers, together with the capacity of our large factory, enable us to build the very best sprayers at the very lowest prices. We guarantee our sprayers for five full years and ship on free trial—no money in advance. That's evidence of quality. Write today—see special free offer below.

Big complete spraying guide, showing cuts of all pests, FREE TO OUR CUSTOMERS.

FREE

You can get a Hurst Sprayer absolutely free if you are the first in your locality this season to send for one of our sprayers for trial. You need do no canvassing or soliciting. It will only take 15 minutes of your time. We do the work. When you get a sprayer from us you get the benefit of our 25 years' experience in manufacturing sprayers. Hurst Sprayers won the gold medal at the National Horticultural Congress spraying machine contest. Send us a postal or mark the attached coupon and mail it to us and we will send you our fine catalog, spraying guide, and will tell you how you can get a sprayer free. Don't delay, write us at once for our free sprayer proposition and save money.

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Send me your Catalog, Spraying Guide and "special offer" on the sprayer marked with an X below.

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Send for free book. Describes early maturing, heavy winter laying, Pittsfield Barred Rocks, new united with the Galloway trap nested strain. We Won Again at Boston. Grand Prize and Silver Cup for best display—12 Regular—18 Special Prizes. Chicks, eggs, brooding birds. Order Now.

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414 Main Street, Pittsfield, Me.



PEARL MONEY IN THE BAG

Pearl Grit is an extra egg producer. Extra eggs increase egg money. The extra money more than pays for Pearl Grit. Users say so, and keep a supply on hand. The reason is, IT PAYS. We want you to write us today for free detail information.

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MAKE YOUR HENS PAY

Our two BIG FREE BOOKS tell you how. OUR New 1912 Hatcher and Brooders will give you stronger chickens and will save half the cost. Write for FREE BOOKS today and we will tell you how to MAKE your poultry pay better than the rest of the farm.

Cycle Hatcher Company,
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Women can make big money at home with our \$6.50 incubator hatching and selling day old chicks. Demand increasing by leaps and bounds. Calfree Governor Incubator Co. Gouverneur, N.Y.

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FREE Booklet by E. W. Philo, entitled "A Little Poultry and a Living." Or: New 96-page book, "Making Poultry Pay." etc. Both books and the new enlarged edition of the Philo System text-book, \$1.00, or all three books with our monthly magazine, Poultry Review, one year, \$1.50.

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Start right for biggest profits. Write to Des Moines Incubator Co., 1 Second St., Des Moines, Ia.

64 VAR. POULTRY, Hares, Eggs and stock for sale reasonable. Cat. and show record free. H. D. Roth, Box 8, Eudora, Pa.

90 VAR'S All breeds Poultry, Eggs, Ferrets, Dogs, Pigeons, Hares, etc. List free. Colored Des' 60 page book Wm. J. A. Bergey, Box 3, Telford, Pa.

50 Best Paying Varieties Pure-Bred Ducks, Geese, Turkeys, also Holstein Cattle—prize winners. Oldest poultry farm in northwest. Stock, eggs and incubators at low prices. Send 4 cents for catalogue. LARKIN & HERZBERG, Box 2, MARKATO, MINN.

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Book and calendar for 1912 contains 320 pages. 72 varieties pure bred, 62 colored plates. Many other illustrations, descriptions, incubators and brooders. Low prices on all stock eggs. How to raise and make hens lay. Get my plans. They all say it's great—this book—only 15 cents.

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Help Yourself To One of My Incubators

1, 2 or 3 Month's Home Test

I HAVE the proof that it will hatch more eggs than any machine made, sold at anywhere near the price. I want to prove this to you in your own home. Will you be one of the fortunate tryers of my

WORLD'S CHAMPION Belle City Incubators

140-Egg Size only \$7.55

I guarantee my machine to hatch all comers, give you a long trial, prove all claims. Why pay more? Why not save money and get in the championship class?

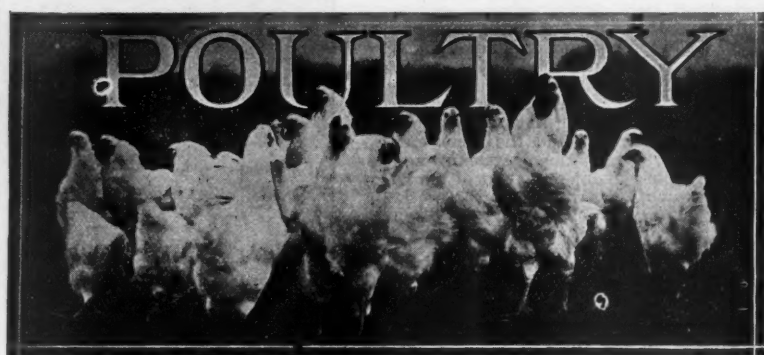
The Belle City has double walls, dead air space all over, double door, copper tank, hot-water heat, self-regulator, "Tyco" thermometer, egg tester, safety lamp, nursery, high legs. My

Belle City Brooder 140-CHICK

is the only double-wall brooder made, hot-water heat, self-regulator, and metal lamp. Price \$4.98. When shipped together I make a special price of \$11.50 for both incubator and brooder serving you 900 on the Complete Outfit. Freight prepaid d. East of Rockies. Better write today for big Portfolio "Hatching Faster" and get latest information how to make money of poultry at small expense, or if in a hurry you can order from this advertisement. I guarantee everything as represented or refund money. Address me personally, JIM BOHAN, Pres.

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Poultry Keeping.

Mashes that are too warm when fed lay the birds liable to colds.

The modern hen house has everything in it readily movable.

Housing ducks and geese with chickens is not a good plan.

One advantage in using an incubator is that it keeps all the hens laying when eggs are up in price.

A recommended cure for sorehead is an ointment made of 1 part kerosene and 2 parts lard.

Cresol stirred up in water and used as a spray is a good disinfectant where there has been a contagious disease.

It is not good for a fowl to be carried by the legs unless you are carrying it to the chopping block.

On warm, sunny days it is a good idea to open all doors and windows of the hen house for a thorough airing.

Chicken that are off feed have often been brought back by putting a tablespoonful of Epsom salts in the feed for each 10 hens.

Egg Money Under Difficulties.

While we were still renting, we moved to a place one fall where there was no hen house and had no money to spare to build one. The barn was commodious, a little distance away stood the cow shed, says Mail and Breeze writer of Nebraska. We moved this shed up to within four feet of the barn and made a back wall and roof with stuff from old boxes. This not being tight enough, we banked it up with manure. For a door, I ripped up burlap sacks, doubled them and nailed the edges to two poles, one of which was nailed to the side of the cow shed. This kept out the cold winds and at the same time let in light and air.

Into the house we put our ten Brown Leghorns and for about two months that winter we had an average of about five eggs per day. Cut alfalfa hay, cane seed and corn was our main feed ration that winter. One must be careful in feeding cane seed. If it lies around where the flock can overfeed on it, it will cause inflammation of the legs and back and they often die from it. Cabbage, beets and pumpkins are fine feeds for winter. A feed of browned wheat once a week is good for the layers in winter, also put a tablespoonful of Venetian red into their drinking water once a week.—P. M. Journey, Arapahoe, Nebraska.



Photograph of the veteran, Henry T. West, 87 years old, and his wife nearly the same age, both seated. At Mr. West's right stands his daughter with his grandchild in the daughter's arms. At Mr. West's left stands Mr. A. E. Gibson, his son-in-law, with another grandchild of Mr. West in his arms. The other children represented are grandchildren. Mr. West is a cousin of the editor of Green's Fruit Grower. He was one of the party who started out from Chicago and located the present site of Greeley, Colorado. Mr. Gibson is the editor and publisher of one of the most wide awake and helpful farm publications of the west. All of our friends represented are now living at Caldwell, Idaho.

It does not take long to lower vitality by inbreeding. New roosters or some eggs for hatching from a good flock solve the problem.

When an egg is severely chilled it weakens the germ for hatching. Eggs for hatching should be kept at a moderate temperature.

When city folks can make money with chickens in a cramped back lot, there certainly ought to be money in farm raised poultry. And there is.—Mail and Breeze.

"Can't you assume a little more pleasing expression of countenance?" asked the photographer. "Yes-y, sir," hesitatingly answered the sitter. "Wait a minute and I'll take off these new shoes."—Chicago Tribune.

How seldom it happens that a householder slips up on the ice he left on his own sidewalk!—Chicago News.

The Mistress Reassured.

Philadelphia Inquirer.

Mistress—"I have some friends coming to dinner to-day, Mary, so I want you to cook your very best." Cook—"You can depend on me, ma'am; I've got some friends of me own coming, too."

Cook—(on the day of her arrival)—Please, mum, I'm a bit fiery at times, and when I'm fiery I'm apt to be a bit rough-spoken; but you needn't let that put you out. With a little present you can always bring me round again.

Stung—"You call this cake angel food?" said the harsh husband.

"Yes, dear," said the timid wife, "but if the diet doesn't seem exactly what you want, here are some deviled crabs."—Washington Star.

Never be in your place of business when a person wants to borrow money of you, because if you are in you will be out, but if you are out you will be in.—London Answers.

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Sensational low price, high quality offer will please you. Send name now. 30 years successful hatch records back me upon quality. Price speaks for itself.

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and Brooders have made fortunes for owners. None better at any price, yet my offer would make you class the Ideal with "cheap" machines if I quoted it here. Send me your name. You'll be glad you wrote J. W. Miller. J. W. Miller Co., Box 40 Freeport, Ill.

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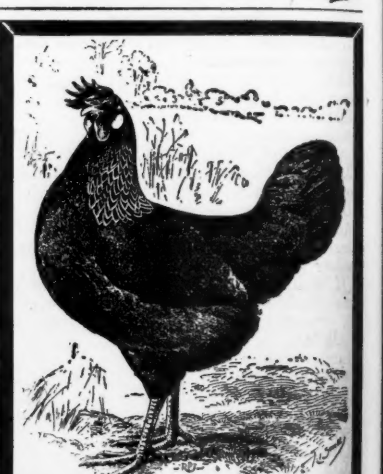
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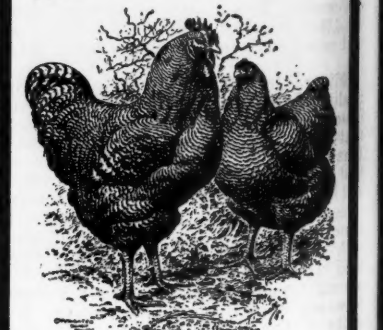
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The Popular Leghorn.—The acknowledged queen of the practical egg-laying breeds is the Leghorn, when judged by the standard of the greatest number of marketable eggs produced at least cost. Not only are the hens persistent layers, but they are extremely active foragers and waste no time in setting. Like a good milk cow they put little fat upon their bones, but devote all surplus nourishment to steady production. They eat less than the heavy breeds, but whatever they consume is put to good purpose. Price of S. C. Brown Leghorns and B. P. Rocks, all one price.



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This breed is as solid as its name and is often called the "Farmer's Friend," the "All Round Fowl," the "Old Reliable." It is the bird for business, and deemed by many the best fowl for farm and home raising. It is not only a good layer, but is quick to develop for the early market. As a far-sighted farmer once said to us, "When you kill one you've got something."

PRICE OF BIRDS OF ALL BREEDS:
Cockerels, \$2.50, \$3.00 and \$5.00 each; Pullets, \$2.00, \$2.50 and \$3.00 each; Trios \$6.00, \$8.00 and \$10.00. We ship no cull birds. The lowest priced birds offered are standard bred, practically as good for breeding purposes as the higher priced birds. The \$5 birds offered are the pick from the flock containing the largest percentage of standard points and therefore commanding a higher price since it makes them eligible for show purposes.

PRICE OF EGGS FOR HATCHING FOR ALL BREEDS:
From good breeding pens, \$1.00 per 13; from our best breeding pens, \$2.00 per 13. While we do not guarantee the fertility of our eggs we are willing to replace all settings from which the purchasers receive less than six chicks, at half the price paid.

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The Poultry Yard.

Keep a little gas-tar on hand and apply it for scaly legs.

You can tell a laying hen as far as you can see her. Her comb is always bright and healthy looking.

February hatched chickens are apt to molt in the fall, and will not be worth anything for egg production in winter.

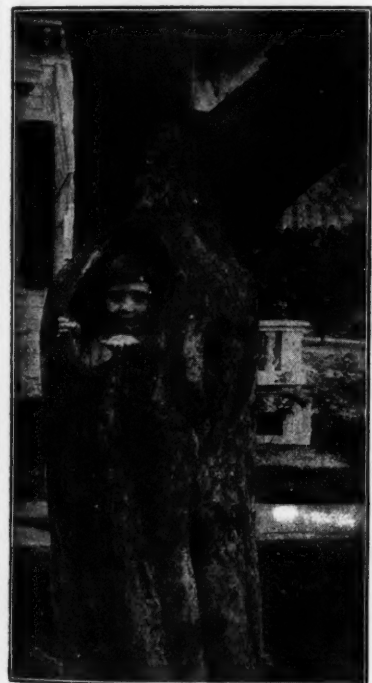
Turkeys more than any other poultry seem to require fresh air. They will roost in trees during a snow-storm and not seem to mind it a bit.

Forcing laying hens with stimulants of any kind, except those nature supplies in good food, is a dangerous and costly process in the long run.

Soak stale bread in sweet, skim-milk, press out the milk as completely as possible, and feed the chicks. Also keep coarse sand before them; without it the chicks can not grind their food.

Put some oats in a box that will not leak; wet them thoroughly with warm water, cover them well, let them stand one whole day, then turn them into a box that does leak. Keep putting warm water on them morning and night till sprouts are well started. Spread them out thinly, moisten more, and keep this up till the sprouts are of the required length. Some folks let them grow a foot long. No finer feast for the birds than oat sprouts.

Hens will soon be bringing good prices, and the high prices will tempt many farmers to sell their hens off too closely. It will pay the average farmer to keep a goodly number of hens the year around. When hatching time comes, if incubators and brooders are not used, it takes several hens to do the work of hatching and rearing the chicks, and we like to have enough others to keep the egg-basket filled. Eggs to sell every week means a small bill at the grocery. Can't have the eggs unless we hold on to enough hens.—Farm Journal.



This photograph is of a Baldwin apple tree sent in by W. H. Vanderbilt of Massachusetts, and prized for sentimental reasons, though at time of pruning it was not known that such a large cavity existed. At the time of cleaning and filling, Oct. 1910, there were five barrels of fair apples on the tree. It also bore a few good apples in 1911, and at this date the fruit buds and general appearance promise a good crop for 1912.

The heart-wood of this tree seemed to be destroyed entirely by boring grubs, as no fungi being noticed. They entered through a stub which projected nine inches above the cut shown in the picture, and there were only a few holes the size of a lead pencil on the end of this stub, which seemed sound to the touch. The cavity extends below the ground and six feet up into the branches. (The child is standing upon a box.) It was thoroughly scraped, fumigated with hydrocyanic acid gas, painted with a solution of copper sulphate allowed to dry, then painted with coal tar and filled with cement in such a way that the new growth was started to roll over it. No signs fungi have appeared.

The most important part of cavity work, after perfect cleaning, is shaping the opening convexly, without bruising the cambium. After this cut back the edge of the bark about an eighth of an inch and cover immediately with grafting wax. This extending edge of wood serves as a guide for the trowel or slicker, so the cement can be brought absolutely flush, enabling the new growth to roll over the edge. When finished paint carefully with coal tar and you will be successful in strengthening the trunk and arresting decay.

Apples East and Apples West.

At the Land Show in New York, which was planned primarily as an advertising scheme for the West, a battle for supremacy between certain Eastern and certain Western states is under way, Oregon and Washington claim that the best apples

on earth are raised in those states. They claim not only size, color and ability to stand shipping, but also flavor superior to that of apples grown elsewhere. There is another claim that has not been advanced at the show up to this time, greater juiciness.

New York apples, those grown within thirty to fifty miles of Lake Ontario and west of Oswego, are the best in the world. Of that there is not the slightest doubt in the minds of fair-minded persons who are competent to judge. It is not color, or size or ability to stand rough handling that makes an apple superior. It is that delicate quality known as flavor. Residents of Oregon and Washington; who have no interest in orchard lands or the buying and selling of apples and apple products, admit that in flavor their apples rank below those of New York.

Horticulturists say that if irrigation were more generally practiced in Western New York the benefits would be quickly seen. The same is true as to "thinning" the growing fruit and trimming the trees. The orchardists of Western New York, if they use the same care as is used in the Pacific coast orchards, have nothing whatever to fear from Oregon and Washington.—P. O. Ex.

Horace Reese, the Lowville cheese expert, sold the 5,000 pound cheese exhibited at the State fair to a Syracuse wholesale grocer. He will now make a cheese weighing 6,000 pounds for the Madison Square Garden exposition.—Baldwinsville Gazette.

The Dairy Cow, a Machine.

If one is to feed the dairy cow successfully, he must regard her as a machine capable of grinding or threshing out from the hay, corn silage, and other feed, all the milk it contains, the same as the threshing machine threshes from the wheat, oats, and the barley, the ripened grain from the straw. When the threshing machine comes onto the farm, a man secures an organized force of men and insists upon the machine working to its full capacity and doing its work efficiently in order that the threshing may be done in as short a time and entail as little expense as possible.

Some people dislike to call the dairy cow a machine, but she is a most wonderful machine, delicate in many ways in her make-up and requiring an operator who understands her if she is to do her work most satisfactorily. She works constantly, day and night, for her owner, converting the feed which she consumes into milk and butter fat, and when properly fed, housed and cared for, she provides a means for converting the dairyman's hard-earned and high-priced feed into dollars and cents which can be equaled by no other machine. She is not only the means of making money for the farmer, but enables him to keep up the fertility of his land and thus make it more productive.—Professor George C. Humphrey, Wisconsin State University.

Emerson: "When you write, do not omit what you intend to say."

Hunting.—Wandering from midnight to dawn among the yawning ravines and pitfalls of the numerous woods in the Genesee Valley, now and then taking a chance by climbing up a tree 50 or 60 feet and making a foothold of a rotten limb where the lantern cannot throw its yellow warning, is far from child's play, but for those who naturally take to the rough sport, there is no hunting left in this part of the country which will compare with coon hunting. If one is lucky enough to bag a couple or three coons in the course of an all-night hunt, he has from \$5 to \$10 worth of skins, to say nothing of 25 to 35 pounds of meat. The coon, however, has to be carefully dressed before it is ready for cooking, and the glands under the arms removed, otherwise the flesh will have a strong, unpleasant flavor. Properly prepared and cooked, however, it is very tasty, and many farmers consider a young and tender coon more delicious than spring chicken, the field corn, apples, wild grapes, beech, hazel and chestnuts on which it lives combining to give it a flavor hard to equal. When the boys chance to get more coon meat than they can use, moreover, the hotel keeper are glad to buy it, the current price for the meat being \$1 per coon, and thus no part of the animal is allowed to go to waste.

A Great Problem of Apple Consumption.

The apple shippers of New York City assert that at least 20,000,000 barrels of this fruit will be disposed of this year. In this estimate, of course, no account is taken of the great quantities evaporated and made into cider. It is learned from the Evening Post of that city that the apple growers are trying to improve their market by inducing the people to eat more apples. Five apples a day for every man, woman and child in the United States would, it is calculated, mean a total consumption of 450,000,000 apples.

Bigger Hatches With Only 1 Gal. Oil To Hatch—One Filling of Lamp!

The X-Ray Incubator actually brings a new standard of artificial hatching to anyone who has used the old style, wasteful machines. It is the one incubator today that's built on the right principle with the lamp underneath, in the center, and not on the side. This means perfect distribution of heat in the egg-chamber and no outside cold. We use a large oil tank holding 4 to 8 quarts of oil—making only one filling of the lamp, but just four quarts are all that's needed for hatch. Old style machines have to be filled every day. The X-Ray saves both work and money! Heat is regulated by our patented automatic trip which cuts down flame at burner when egg chamber gets too hot—this is a big saving of oil. The ever successful

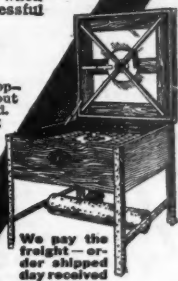
X-Ray Incubator

has other exclusive and proven features that you will like. It opens from the top—has two double glass panels so you can see the thermometer at any time without letting in outside air on eggs. Ventilate or turn eggs by simply raising the lid. There are no sliding heavy drawers to break the eggs. X-Ray is heated to hatching temperature in just 15 minutes—others take 4 to 6 hours because of their old style principle. X-Ray is made of all genuine California redwood, covered completely with enamel steel, beautiful rosewood finish, legs galvanized, strongly braced. Every X-Ray incubator fully guaranteed. X-Ray results are the biggest results.

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Learn all about X-Ray construction—why X-Ray is entirely different and wonderfully better than any other. Read why women and all mere beginners have such big success every time with the X-Ray! Write today—this is very important news—worth money!

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Takes cockle, wild oats, tame oats, smut, etc., from seed wheat; any mixture from flax; buckhorn from clover; sorts corn for drop planter; actually handles 70 different seed grain mixtures.



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Used by many hundreds of thousands of most successful poultry raisers.
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The book entitled, the history of White Diarrhoea or why incubator chicks die, will be sent absolutely free by return mail to any one sending us the names of five to eight of their friends that use incubators. This book can save you \$100.00 this summer; it describes White Diarrhoea, or bowel trouble, the cause, and tells of a cure. Book absolutely free for the names.

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"Back to The Country."

Written for Green's Fruit Grower by A. H. B., Maine.

What I have to tell is the experiences of a man and his wife, old friends of mine, past middle life, and both of a mind to get away from the city and have a chance to end their days in some little settlement where they could buy a cheap place, and try to get a living out of it, without looking forward each month to rent day, as had always been the case with them. So when I heard from a mutual friend that Mr. Geo. Ayer had given up his position in the city of B— and that his wife had closed her dressmaking rooms, and after packing their household goods, had moved to one of the small summer resorts on the coast of Maine, where they had bought a piece of land, and started putting into effect their long cherished plan. I was anxious to know how they got on in their new venture, and decided to visit them and find out.

Circumstances kept me from doing so until they had been settled in the new home for two years and when at last I arrived there and looked the place over, and saw the comforts both inside the house and out, I felt that I too would like to follow the example they had set. I got there just before dark on a dull evening in November and after a good supper we settled ourselves before an open grate fire of drift wood. My host at my right hand and Mrs. Ayer with her knitting work in a low chair at my other side. Mr. Ayer is a man of very few words, so much so in fact that his wife calls him her "silent partner," while Mrs. Ayer is a great talker and so I naturally turned to her to get the account of the progress of their new life and will let her tell it in her own way. "You see George and I each had a little money saved up at the time we came here, and while looking for a place within our means, happened to hear of this acre and a half of land for sale at a reasonable price, and after reckoning up the cost of building this house of six rooms and the probable cost of a couple of hen houses we felt sure our money would hold out to take us that far and leave us enough to buy a few hens, raise some chickens and buy seed and dressing for the garden, also to keep us out of debt for food and other incidentals the first season, and although it required considerable courage to give up the regular income, we felt sure we could make a go of it, if we should keep in fairly good health.

This is quite a place for summer visitors, and many families have cottages here which they occupy from May up to about October. That was the month we bought our land, and as we could not do anything in the way of starting our farm until the frost was out of the ground the following spring, we hired a cottage near here of one of the families that was just moving to the city for the winter, paying \$5 a month for house and privilege of using barn and woodshed to start hatching chickens early. You see my part of the new business was to be poultry raising, while George was to cultivate the garden and sell vegetables, beside doing an occasional day's work as a carpenter when any new cottage was built. You understand I knew positively nothing about hens except that they were expected to lay eggs, and were very fine eating when properly cooked. But I realized I could learn considerable by reading the poultry journals during the winter and I am not easily discouraged either, and then too I had always had a longing to keep hens, and had never had a chance until now to gratify my desire. As you may imagine I lived in a kind of dream all winter seeing quantities of fluffy little chicks rushing to me to be fed, and also in dreams I saw our fortune made in a very short time, for I reasoned this way. If I should raise chicks from even two-thirds of the eggs set under the hens, and (I thought that was putting the figures quite low) and if each of those chicks did as well toward raising families when their turn came, we should be obliged to purchase more land in the near future to accommodate the immense flocks we should have. So while we were resting up during the cold months, I studied every article on poultry I could get, and my husband became interested in seed catalogues and plans of houses. I must say it was a pleasant season to both of us, and we were in good trim to begin the extra work when the time came for us to buy the first hatching eggs and some broody hens to put them under. I started out March 1st among the families who kept hens and succeeded in buying two old Plymouth Rocks. Paid seventy-five cents for each. Then from another neighbor bought two settings of eggs for \$1. These eggs were from Plymouth Rock hens, but as it afterwards proved they might just as well have been crow's eggs, for all the good we got out of them. I must tell you now those two old hens and the nice large clean eggs, looked very precious to me.

"I was anxious to begin at once, so the next day, George hurried up two soap boxes, and after filling them with clean hay and making a hollow in the center of each to make a nice nest for hen and eggs, told me 'to bring on the live stock,' so I settled the hens in their nests, placed water and food near them, and left them to do their part of the work. All went well for three days, then one of those hens decided to go back home and mingle with the general flock of her former owner. Of course it was lonesome business, sitting there in the dark and quiet of that old barn, when all her old acquaintances were out in the sunshine, scratching for worms and having an occasional fight over some choice scrap that had been thrown from the house table. However, I discovered her absence while the eggs were still warm, and placed a heated blanket over them while I hunted up the hen. I soon found her and induced her to return and take up her abode with us for the required time. Did not intend to have her play me any more tricks, so covered her with an old basket for the next 48 hours, after that she seemed content and the basket was taken off. The other hen sat quietly during the whole three weeks and seemed in a 'dreamy state most of the time. I will confess to you that those three weeks seemed longer to me than all the rest of the winter, but they came to an end at last, and one morning we found ten chicks in one nest and eight in the other.

"My husband suggested giving both broods to one hen, as he said the other would begin to lay before long, if she had no family to work for. So I gave the eighteen chicks to the hen that had behaved the best. We fixed a nice little yard near the house on the south side, for her and the baby chicks and turned a barrel on its side to serve them for a sleeping room at night. All went well for perhaps two days and then two of the chicks lay down and died without any apparent cause, and at the end of a week others had followed suit, until only six remained and those six did not seem quite well and happy. I induced George to examine them and he said 'lice.' I had read that grease would remove lice if rubbed well into the down on top of the head and along the back, but as the article had not said do not use grease with salt in it, that is just what I did use. I took some rather salt table butter and dosed the chicks and the hens too.

"I felt sure that if a little might save them, a lot would be sure to do so. Im-

agine my surprise when the next morning only two of the chicks were alive to come out of the barrel with the hen. During the forenoon, one of those decided that life was not worth living and gave it up. When night came and time for little chicks to go to bed, my one remaining baby was too far gone to cross the yard to the barrel and the old hen tottered as she tried to get there. So out of pity I gathered them up in my arms and put them into the nice soft nest. Next morning the old hen was alive, but took no notice when I took the dead chick from under her. But we did manage to save the life of the hen. About this time I began to wake from my dream of fearing the chickens would multiply faster than we could care for them, but rather wondered if I could raise any. I decided to try again however and as it was getting along into April by this time, and we must vacate our hired house by the middle of the month, we built one of our henhouses 10 x 30 feet, and decided to use it for a camp until our house was finished, which the contractor told us would be October 1st.

The camp was built in ten days and we moved in, but before settling that place we fixed up temporary quarters for the two old hens we already had and for other broody ones. I wanted to hatch chickens for me. Mr. Ayer bought several drygoods boxes, and put a partition in each, so that each box would give nests for two 'sitters'. He covered the top of the boxes with tarred paper to keep out the rain. Bought two more broody birds and put fifteen eggs under each. The hen that had been sick was willing to try her luck again and I gave her fifteen eggs. The other old one had begun to lay an egg every day or two, as I felt we were well under way in the poultry business. Had the live stock all attended

(Continued on Page 42)

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ALWAYS AHEAD

Top Grafting Trees.

The process of top grafting is not so difficult to understand and to perform as the average person thinks. First, go to some good apple tree, which you know is a good bearer and a good variety, and cut your scions. If for the novelty of the thing, or for the purpose of experimenting, you wish to try two or more different varieties it is quite practicable to graft several varieties on one tree. Trees have been seen bearing seven or eight different kinds of apples at one time.

You may have to get your scions from some neighbor (scions are simply twigs from last year's growth). The scions should be cut while the tree is dormant, or any time before growth starts in the spring, but preferably in the fall, as the buds begin to swell sometimes soon after the first of January. Take for your scions the tips of the limbs which have made a growth of from twelve to eighteen inches the previous summer. Do not take water sprouts or shoots coming from the trunk or large limbs, as buds from these sprouts are not usually so strong as for those from the normal growth. Cut the scions off back as far as the previous season's growth extends and bury them in moist sand or soil, either in the cellar or on the north side of some building.

About the time the buds on the trees begin to swell, or from about the first of March on, is the best time to do the grafting. The limbs to be grafted should be somewhere between an inch and three inches in diameter. They should be sawed squarely off and the stubs split with a chisel down about two inches straight through the middle. The chisel is then removed and a wedge about half an inch wide inserted in the middle of the stub for spreading the split. If the wedge is much wider than this, it may not leave room enough on each side to insert the scion.

Next take one of the scion twigs and cut it into several pieces, each having three or four buds. Cut the larger end of one of these pieces wedge shaped and insert it in the split in the end of the stub so that the third bud from the tip comes a little below the end of the stub. Put one scion on each side of the wedge and adjust them so that the inner bark on the outer side of the scion comes in contact with the inner bark of the stub or large limb. Then, pull out the wedge, and the wood will spring together and hold the scion. All freshly cut surfaces and the crack in the limb should be covered with grafting wax to keep them from drying out.

A good grafting wax is made by melting together two pounds of resin, one pound of beeswax, and a half pound of tallow. After they are melted the liquid should be poured in cold water and then pulled like taffy until it is of a buff color.—S. Van Smith, Col. Agr'l Col.

Pruning for Open-Center Apple Trees.

The open-center tree is for the careful orchardist usually the most satisfactory method of training, but it must be supplemented by some method of propping or tying to support the limbs when they become heavily loaded.

Pruning a tree, like training a child, must begin at the beginning, and be carried on systematically, says W. K. Newell, president of the Oregon state board of horticulture, in the Rural New Yorker. The tree must not be neglected for three or four years, then cut and slashed to "bring it into shape." We have two general systems of training the apple tree here in the northwest, the center-stalk or leader system, and the open-center or vase-shaped tree. Each has its earnest advocates, and each is followed more or less faithfully, according to the skill of the operator in attaining his ideal. But no matter which plan is followed, the foundation is invariably the same; a straight, well-grown 1-year-old tree. No commercial orchardist here ever thinks of buying a 2 or 3-year-old tree, as the yearling transplants better, grows faster, and it can be headed at the right height. Pruning should begin before planting by cutting off all dry or bruised ends of roots, or any gnarled and crooked roots, leaving them four to six inches long and pointing outward and downward in as natural position as possible. When the tree is set as it should be two inches lower than it stood in the nursery, and the dirt well firmed, begin the pruning of the top by cutting it off 8 to 20 inches above the ground, being careful to leave the top bud turned toward the prevailing summer wind. If there should be any side limbs below this cut head them in to two inches. If the lower buds start to grow rub them off in June or early July, leaving the upper five or six. No further pruning is necessary until the next spring. The second year pruning depends upon whether you are going to follow the leader or the open-center system. We will consider the leader plan first. Choose from three

to five of the best placed limbs, removing the others and head them back to one-half to one-third of their original length, according to the vigor of the growth; leave the most central one from four to six inches longer than the others.

The third year select two or three limbs for each one of the branches left the year previous, cutting out all others and head them back the same as before to one-half or one-third of their length. Still maintain the leader and balance the top carefully. This should give a sturdy, vigorous frame on which to build the future tree, and the following years the winter pruning should be largely confined to thinning out, leaving the heading back to be done in the summer. There can be no hard and fast rule for this, but conditions must govern. The vigorous-growing, light-producing trees must be heavily pruned in summer, while the slow-growing, heavy bearers should be cut lightly in summer. Climatic conditions must be considered as well as the growth of the tree.

Here in the Pacific northwest, in the region lying west of the Cascade mountains, we must summer-prune heavily, and the proper time is about August 15.

East of the Cascades much less summer pruning is needed, and the season for it is a little earlier.

By judicious summer pruning the small twigs along the main branches can be headed back and made to form fruit spurs the entire length of the branch, no matter what the general plan of shaping the tree may be, and this is the supreme object to be attained. By preventing the growth of long, spindling branches we can keep the tree compact close to the ground, and bearing a well distributed load of fruit over its entire surface.

For the first year the treatment is exactly the same for the open-center trees as for the leader system; but at the beginning of the second season, in pruning, only three branches should be left, and the leader is removed. These three branches should balance as nearly as possible, but should not start from the tree at the same height. The third season five or six of the best limbs should be left growing upright, forming as nearly as possible a circle around the open center, and treated as leaders each one; that is, their side limbs cut back, and the center one forced ahead. This plan must be followed until the desired height is reached, when the tree is allowed to develop naturally, but care is taken at all times to keep the limbs cut out of the center.

Naturally a tree pruned this way is not so well able to support itself as it would be with the leader system, but the advantage comes in the greater amount of bearing surface that can be kept close to the ground and at the same time thoroughly exposed to the sunlight. Some kind of artificial support is necessary, and is best provided by using a soft tarred yarn rope that is now manufactured for the purpose, and looping these upright limbs together clear around the circle. This soft rope will not injure the tree in the least, and it will last at least three years. Placing them on at the time the tree begins to bear they will last long enough for the tree to attain sufficient growth to be self-supporting.

Peter Curtin has picked about 3,500 bushels of apples, mostly Baldwins, Spies and Greenings, and he has received an average price of 50 cents a bushel for the crop. He picked sixty bushels of Baldwins from one tree. For five weeks he and hired help have been busy picking and marketing his apple crop, and barely ten bushels out of the 3,500 are culls. Mr. Curtin was offered \$500 for his crop on the trees, but wisely refused it, and will realize nearly \$1,800.—Skaneateles Free Press.

Prosperous Nova Scotia.

The apple crop of Nova Scotia this year exceeds in quantity and quality that of all previous years. It is now claimed that 1,500,000 barrels will be gathered. Up to the middle of October 300,000 barrels had been shipped to England, and many carloads to Winnipeg. The growers complain of the lack of labor and have difficulty in procuring help to gather the fruit. They also have difficulty in procuring barrels to make their shipments.

All the industries of Nova Scotia complain because of the inability to procure labor to carry on their work. Men are badly needed to assist in the creation of new wharves and docks.

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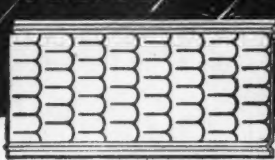
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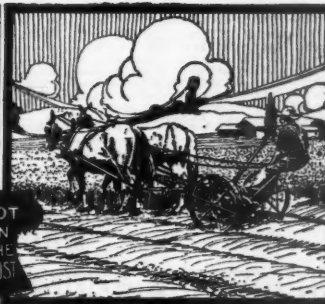
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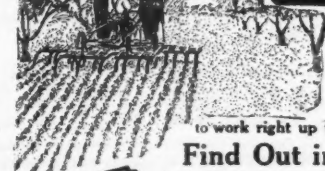
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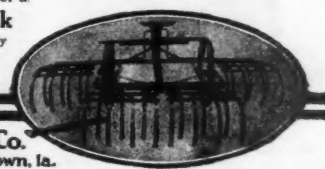
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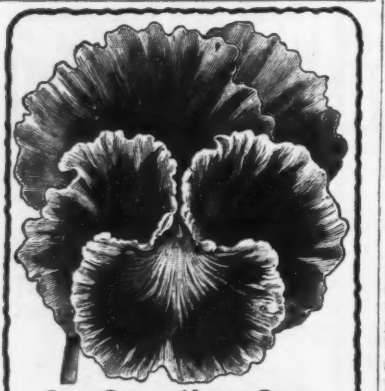
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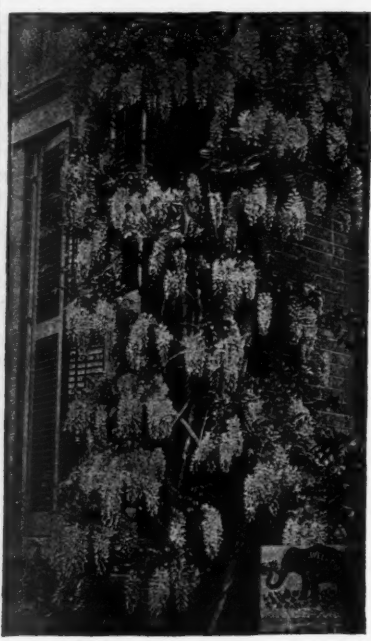
WM. HENRY MAULE 1707-09-11 Filbert St., Philadelphia, Pa.

Send 5 cents (stamp) mention this paper, I will enclose in the catalogue a packet of the above GIANT pansy.

When you write advertisers Please mention Green's Fruit Grower.

Railway Gardening.

Representatives of more than twenty railroads were present at the fifth annual meeting of the Railway Gardening association held in Chicago a few weeks ago. The object of the association is "to consider a more thorough and systematic extension of railway gardening; to improve the appearance of all railroad way lands, especially those adjacent to passenger stations; to encourage the beautifying of grounds adjoining railroad property; to eliminate whatever unnecessarily detracts from the beauty of the landscape as seen from the car window; to stimulate universal interest in presenting more attractive appearances to the traveling public." It is encouraging to find that the list of papers, prepared by men who represented the Pennsylvania, Michigan Central, Illinois Central, Baltimore and Ohio, Canadian Pacific, and the Jersey Central railroads, included such practical topics as the following: "Fences and Hedges," "Lawns," "The Treatment of Cuts and Banks," "Fertilizers," and "Should Railroads Purchase or Grow Their Stock?"—The Survey.



CHINESE WISTARIA—One of the most elegant and rapid growing of all climbing plants; attains an immense size, growing at the rate of 15 to 20 feet in a season. Has long pendulous clusters of pale blue flowers in May and June and in autumn.

The Path to Poverty.

On November 10th Mr. Carnegie delivered to the Carnegie Corporation of New York the lump sum of \$25,000,000, to finance and carry on the campaign of education, by the establishment of libraries and otherwise, which has hitherto been conducted by Mr. Carnegie in person. It is estimated that this latest contribution to the benevolences fostered by Mr. Carnegie raises the aggregate of his benefactions to the considerable sum of \$215,000,000.

It has been apparent for some time that Mr. Carnegie was not jesting when he declared his intention of disposing of practically all of his large fortune for educational and other benevolent purposes, and to leave comparatively little of that fortune undistributed when he shall be called away. Active as he has been in business, Mr. Carnegie has realized that at the age of 75 it would be a practical impossibility for him to deplete his fortune to a point approaching the zero mark by his individual efforts. While it is obviously easier to dispose of millions than to accumulate them, there is a limit to human endeavor.

Time Now to Plant the Orchard.

By John Vallance in Orchard and Farm.

Now is a good time for those who intend planting orchards next season to make out their lists. It may seem early to do this, but my advice, after years of experience along these lines, is that the "early bird gets the worm." It is essential to successful planting and production to place your orders early so that desired varieties may be obtained. Very often this important matter is left until planting time is on and you are told by the nurseryman that such and such a variety cannot be obtained, "stock is sold out," and rather than lose a year's growth you are induced or compelled to select some other less desirable sort, or you may be unable to obtain your selection on the root you require for your soil.

The success of an orchard is getting the right paying sorts and the selection is very easy; from the long lists furnished by nurserymen, suitable varieties for this State can almost be enumerated on the fingers of the hands. I presume

you have already decided what fruit is best adapted for your locality, if not I would advise you to gather all the data you can obtain from your neighbors or by your own observation. I particularly appeal to those who are only recent arrivals in California and to the inexperienced. I have known of quite a few planters who, on account of wrong varieties being set out, have lost many dollars. To delay ordering is a mistake that really cannot be over-estimated.

The following is a detailed list of varieties that no mistake can be made in planting. I will take up cherries to begin with. These are the first of the deciduous fruits to ripen. For a black variety the Black Tartarian is acknowledged to be the best all-round of its kind. It ripens before any of the other good "blacks," and is much used for eastern shipments and extensively planted for home consumption.

Napoleon Biggarreau (Royal Ann) is the best white or marbled cherry. The fruit is large and very solid; fine for eastern shipments, canning and home consumption; a late variety.

The Lambert comes to us from Oregon very highly recommended. It has not yet had an extensive trial in this State, though there have been quite a few orchards set out during the last few years and I recommend this variety. It is an exceptionally large black cherry, very firm, juicy and sweet; it is an excellent shipper and a late ripening variety.

Lewelling or Black Republic, is a medium sized late ripening black variety, very solid and firm, and valuable for eastern shipment. Quite a few orchardists around San Jose plant this sort in conjunction with other varieties, as it is a good cross fertilizer and some of the older orchardists believe this to be the means of better crops.

The Bing is a fine, large black cherry, not so productive as any of the above, but where it does well it is a grand cherry.

Knight's Early Black, a very early sort; black, tender and juicy; good on account of its earliness.

Beside the above referred to as commercial varieties, I have some other very fine sweet sorts, valuable for the home garden. The Governor Wood is an exceptionally fine, yellow cherry, quite early, deliciously sweet and one I can recommend.

The home garden is not complete without one or two of the sour cherries, May Duke, English Morello or Early Richmond.

The above cherry thrives best in a deep sedimentary soil; shallow soil must be avoided. While they will do well in such places for a few years, they early begin to show signs of decay. Those old, fine massive trees that yield immense paying crops are grown in very deep soil. The cherry will stand plenty of moisture, but it must have good drainage.

There are two kinds of varieties of seedling cherries that are used to bud or graft the above mentioned sorts (and others) on, viz.; the Mazzard and the Mahaleb. During the last twenty years the former has been more extensively used than the latter, but recently the Mahaleb has been in demand. From the writer's own experience, his belief is that the Mahaleb is better suited for soil that does not contain so much moisture as is required for the Mazzard root.

How much can be made from a cherry orchard? This is a question rather hard to answer. Three hundred pounds of fruit from one tree say 12 to 14 years old is not over-estimating, I think. These sell from four to six cents per pound.

The cherry is rather long in coming into bearing—from six to eight years, and from that time on they keep increasing. The Black Tartarian, for instance, bears earlier than will the Royal Ann. Twenty-five feet apart each way is the proper distance to set the trees out; planting them this distance it will take 69 trees to the acre.

Twain's Fall From Grace.

Mark Twain was quite at his best at an after-dinner speaker at the dinner given in his honor a few years ago by the members of the Author's Club. Incidentally, he told the story of his first lapse from the paths of honesty. He was very young at the time, he explained, and the day was an exceedingly hot one. As he walked down the street of the village in which he was living he saw a cart loaded with melons of moist attractive appearance.

"It is with regret I mention," Mark Twain went on, "that I was tempted and I fell. I grabbed the most likely looking melon of the lot and hurriedly made my way to the back of the woodshed. I gouged a huge slice out of it and bit it. No sooner had I done so when something within convinced me that I had done wrong. A voice seemed to say, Mark, get up and take that melon right back to where you got it from." It was about the greenest melon I had ever tasted. I went back to the cart and carefully replaced it and took a ripe one in its place."—Boston Traveler.

A WOMAN FLORIST

6 Hardy Everblooming Roses 25c

On their own roots. ALL WILL BLOOM THIS SUMMER

Sent to any address post-paid; guaranteed to reach you in good growing condition.

GEM ROSE COLLECTION

Antoine Riviere, Delicate Blush, Etienne de Lyon, Golden Yellow Killarney, The Irish Beauty, Rhea Reid, Dandelion Crispin, Snowflake, Pure White Aurora, Grandest Pink

SPECIAL BARGAINS

6 Carnations, the "Divine Flower," all colors, 25c. 6 Prize-Winning Chrysanthemums, - - - 25c. 6 Beautiful Coleus, - - - 25c. 6 Grand Hardy Philo, - - - 25c. 6 Choice Double Dahlias, - - - 25c. 6 Fuchsias, all different, - - - 25c. 10 Lovely Gladiolus, - - - 25c. 10 Superb Pansy Plants, - - - 25c. 15 Pinks, Flower Seeds, all different, 25c.

Any Five Collections for One Dollar, Post-Paid. Guarantee satisfaction. Once a customer, always one. Catalog Free.

MISS ELLA V. BAINES, Box 93 Springfield, Ohio

TOMATO FIGS

A beautiful and valuable novelty much used for making figs. Plant grows in bush form, literally covered with fruit. The skin and flesh are a rich golden yellow, solid, thick-meshed, with a pleasant flavor. When canned or dried in sugar, like figs, make excellent pies or tarts for winter use.

For Only Ten Cents

We will send packet Tomato Fig Seed and a Surprise Packet of other new seed in a 10c. rebate envelope, which when emptied, will be accepted as 10c. payment on any order for seeds in our 1914 color catalogue which is included FREE. Order today.

SMITH BROS. SEED CO., Box 637, Auburn, N.Y.

SEEDS

and large instructive catalogue of Best Seeds at right prices. Send 2c stamp for postage. Gardeners ask for wholesale list.

ALNEER BROS.

No. 15, A Bldg., Rockford, Ill.

CARDS

SEND ME 10 CENTS

If you will send me the addresses of two of your loving friends, I will send you my bargain collection of Spencer Sweet Peas, Giant Orchids, flowering type, Nasturtiums, dwarf chameleons mixed, Royal Show Fuchsias, Astors, Sweet Peas, also 20 seeds of choice seeds.

GIANT MARGUERITE CARNATION which blooms in 4 months from sowing also "Free Flower Culture" and my descriptive 100 page catalog containing 48 pages. Write today enclosing 10 cents. **MISS C. H. LIPPINCOTT, Pioneer Seedwoman, Dept. 17 HUDSON, N.Y.** (1 hour's ride from Massapequa)

DINGEE Roses

are the best. On their own roots. Express paid under a special plan. Growing plants delivered FREE, anywhere. Satisfaction and safe arrival guaranteed. 61 years experience. Write for "Dingee Guide to Rose Culture"

Most reliable Rose Catalogue—106 pages. Mailed FREE. Describes and prices nearly 1,000 Roses and other plants; tells how to grow them. Best flower and vegetable seeds. Estab. 1850. To greenhouses.

THE DINGEE & CONARD CO., Box 352 West Grove, Pa.

ROSES & NEW CASTLE

is the greatest book on the culture of Roses and other plants ever published. 66 pages, exquisitely illustrated in natural colors. Gives lifetime experience. Tells everything about rose culture. Describes wonderful flower buds, bumpy plants, bulbs, seeds, etc., world's best for home planting. It's FREE. Write today.

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STRAWBERRIES

Plants by the dozen or by the million. 120 acres planted in 103 varieties. All the standards and the most promising of the new ones. Largest grower in America. Every plant true to name.

Also Raspberry, Blackberry, Gooseberry and Currant Plants, Grape Vines, California Fruit and other shrubbery. Cultural directions with each shipment. Beautiful Catalogue FREE. Send a postal today. My personal guarantee back of every sale.

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SEEDS

BUCKBEE'S SEEDS SUCCEED!

SPECIAL OFFER: Made to build New Business. A trial will make you our permanent customer.

Prize Collection: Radish, 17 varieties; Lettuce, 12 varieties; 22 kinds; Tomatoes, 11 varieties; Cabbage, 10 varieties; 8 best varieties; 10 Spring-flowering Bulbs—45 varieties in all.

GUARANTEED TO PLEASE.

Write to-day; Mention this Paper.

SEND 10 CENTS

to cover postage and packing and receive this valuable collection of Seeds postpaid, together with my big Instructive, Beautiful Seed and Plant Book, tells all about the Best varieties of Seeds, Plants, etc.

ROCKFORD SEED FARMS

H. W. Buckbee, Farm 283 ROCKFORD, ILL.

When you write advertisers Please mention Green's Fruit Grower.

LOOK FOR TREE CANKERS IN THE APPLE ORCHARD.

Dying Branches Call for Examination and Treatment.

There is apparently urgent need for early recognition of certain branch diseases known as cankers in the apple orchards of Ohio, and for prompt preparation to deal with them. Where dying branches occur, the cause of local death should be learned; if from a local dead area with roughened dead bark one may feel reason to suspect apple canker. If at the same time dead pruning stubs from other years are found surrounded by an area of dead bark or wood, then such infection of the pruning wounds would indicate the prevalence of this disease. The spores of the canker fungi are carried by such agencies as wind, rain, etc. Between now and next March is the proper time to seek out the cankers and prepare for their destruction; better results are promised by early fall removal.

Three forms of canker are quite frequent over the state and one of these, the blister canker, has been found by the Experiment Station to be exceedingly abundant especially upon bearing orchards in southern and eastern Ohio. The black-rot canker and the cankers caused by the pear blight organism are well distributed. Other canker forms are known and all are being studied. All forms are shown by death of the bark and threaten the life of the bearing orchard; they are in a way to inflict heavy losses if neglected. Blister canker seems to enter through wounds which are unprotected. To meet canker, early pruning and burning of dying branches, and removal of canker spots on living trunks and branches are urged. The diseased bark, etc., from such spots must be burned if spores are to be destroyed and infection reduced.

THE TREATMENT.

The treatment of apple orchard cankers involves also the treatment of large wounds or pruning wounds as well as those caused immediately by the removal of cankers. Dead limbs will require to be cut off close to the trunk or large branch. The same applies in all pruning. No dead stub should remain to open the way for further infection.

Where local cankers with bark dead to the wood are discovered upon branches or trunks, or in crotches, the dead bark should be removed with a chisel, drawing knife, or other suitable instrument back to the sound, healthy, living tissue. When these surfaces, such as those caused by the sawing off of branches, or by shaving off all cankered tissue, have become free from moisture and the surface is dry they should be treated with melted asphalt or asphaltum; the branches should be removed and the bark from cankers should be promptly burned to destroy the spores of the fungus. When pruning in the fall it will be easy to secure the dry surfaces spoken of, usually without preparatory dressing. At times when trouble arises from moisture the freshly cut wounds may be covered temporarily with white lead paint or linseed oil and Venetian-red, and later treated. Permanent covering of all wounds is required to protect them from infection by wound parasites.—Experimental Station.

THE ADVERTISING MAN AS FRUIT GROWER.

How W. T. Davis Succeeded.

"Of course you know that the soil must be studied as well as the topography of the fields, so that the most successful combinations of plant food and surface and air drainage are obtained; for an orchard or a vineyard is planned for a lifetime, at least so far as apples, peaches, pears and plums or grapes are concerned. Apples and grapes, if planted on high ground where they will not have "wet feet" and breeze enough for cross fertilization, will go on bearing for a hundred years or more if they are properly pruned, sprayed, cultivated and fertilized.

"You can readily see that a campaign of this kind requires as much planning and study as an advertising campaign which is to continue over a period of five or ten years. It requires heavier soil for apples and pears than for peaches and cherries or certain other fruits, because of the longer life and the tremendous weight of fruit the trees must carry when in full bearing. Where you get the proper soil for apples you have land good enough or heavy enough for any of the crops grown in the Central States; so that selecting a farm for apples is not an easy proposition for the amateur unless he is properly advised.

"I spent two years studying the merits of the Michigan fruit belt before I settled near Paw Paw, the county seat of Van Buren County, a most beautiful and healthful city, shaded by enormous maple trees whose branches meet, forming an arch over most of the streets.

"This portion of the county was the home of giant forests of great white oaks, black walnuts and beech. The soils of this county vary from the blow sand hills through the various phases of sandy soil, sand loam, clay loam, clays, black loam and muck land, giving a greater variety than can be found elsewhere in the same area. Of course many of the farms are now lacking in fertility because they have been robbed for 50 years or more; and the lighter the soil the more they have suffered for lack of fertilizer.

"An advertising man is quick to make notes of everything phenomenal for publicity purposes, and I give you the statement of the county treasurer of Van Buren county that in 1909 six acres of his apple orchard netted him a little over \$2,400 per acre. This may sound like some of the western irrigation fruit orchard tales. What kind of an investment would it take to return \$24.00 in interest per annum? It sounds like \$400.00 apiece for each tree; but of course no man expects a full crop each year, and even though you divide it by 4 you have a price of \$100 per tree or about \$3,500.00 to \$4,000.00 per acre. Of a certainty, uncultivated, untrimmed and unsprayed trees will not bring such an income. Neither will corn plant and cultivate itself and produce annually 50 to 75 bushels to the acre.

"We can grow profitable crops of apples in Michigan if we can get half the freight charges between Washington and the Chicago market and you can buy the cleared land fairly well improved in quality for \$50.00 to \$300.00 per acre. There is every reason for the advertising man or any man who reasons for himself to figure upon the sale of his product, whatever it may be before he begins to count his profits.

"Michigan seems especially adapted to a combination of fruit and poultry and only a few acres are required for a satisfactory income from a well-managed 5 or 10 acre farm devoted to those two special lines. Much has been claimed for all the counties of the state and, without a doubt, all have much good land to offer the fruit growers of the future, but after a two years' search all along the western coast of Michigan I will say for the benefit of all advertising men and others that the Original Fruit Belt has more good land to the square mile, is closer to market and much more desirable for that reason.

Johnny Appleseed.


A hundred years ago "Johnny Appleseed" was a well-known character among the pioneers of Ohio, Indiana and the frontier of Kentucky. His real name was John Chapman, and he was the father of the apple orchards. He had no money and his worldly possessions consisted of ragged clothes, a hatchet, a knife and a birch bark canoe. He would make periodical visits to Pennsylvania or New York state, where he would get a supply of apple seeds. These he would carry back through the wilderness of Ohio. When he reached a part of the

state where there were no apple trees he would plant the seeds. He had studied apple culture and was an expert on the subject. He knew the best soils in which to plant the seeds, and he picked out with unerring instinct the places where the future orchards would be best protected from the winter storms and get the most advantage of the sun and rain. When he found the right spot he would clear away the trees and shrubs and plant his apple seeds and build a rude fence about his nursery. When he had done this, planting enough seed in each nursery to supply the farmers in that section with young trees, he would go to another part of the state and start another orchard in the wilderness. He would keep up this work until his stock of seeds was exhausted, when he would trudge back to Pennsylvania for another supply. When his seeds had grown into saplings he would distribute them among the farmers. In this way most of the orchards in the Buckeye state were started. In return for his missionary work the pioneers would give him clothes and supply him with food and tobacco. In the cabins of the early settlers "Johnny Appleseed" was always a welcome guest.

There may be cases where commercial fertilizer is useful in the orchard, but stable manure generally reaches the spot.

To a very considerable extent the selection of a suitable or unsuitable site decides the fruitfulness and value of the orchard.

\$1.20 Worth of Flower



SEEDS

Postpaid For Only **10c**

1 Pkt. Aster, Floral Park Mixture
1 Pkt. Camellia, Extra Giant Mixed
1 Pkt. Carnation, Finest Mixed
1 Pkt. Star Flower, a Novelty
1 Pkt. Mignonette, Sweet Scented
1 Pkt. Alyssum, Carpet of Snow
1 Pkt. Pansy, Double-Carnation Fl.
1 Pkt. Camellia, Sweet Scented
1 Pkt. Petunia, Finest Mixed
1 Pkt. Parthenoc, Choicest Mixed
1 Pkt. Summer Cypress (Burn's Bush)
1 Pkt. Sweet Pea, Large Fl. Mixed

We will send the above 12 packets of First Class flower seeds, our new illustrated Garden Annual, and a fine bill giving you your money back, all for 10c postpaid.

J. ROSCOE FULLER & CO., Box 426 FLORAL PARK, N. Y.

SEED Greatest Offer **10c** Ever Made

Over half million of these combinations sold. Send only 10c for trial test order—20 Big Packets.

Best, Perfection Red Turnip, earliest, best.
Cabbage, Winter Head, sure header, fine.
Carrot, Perfection Half Long, best table sort.
Celery, Winter Giant, large, crisp, good.
Cucumber, Family Favorite, favorite sort.
Lettuce, Bell's Prize Head, early, tender.
Musk Melon, Luscious Gem, best grower.
Watermelon, Bell's Early, extra big, fine.
Onion, Prize Winner, weight 8 lbs., 1000 bu. per acre.
Parsnip, White Sugar, long, smooth, sweet.
Radish, White Icicle, long, crisp, tender, best.
Tomato, Earliest in World, large, smooth, fine.
Turnip, Sweetest German, fair, sweet, large.
Flower Seeds, 600 sorts mixed, large packets.
Big Tom Pumpkin. Makes finest pie.
Bell's Giant Thick Leaf Spinach. None better.
Cress or Peppercress. Needed on every table.
Moss Curled Parsley. Finest greens grower.
Mammoth Russian Sunflower. Largest flowers.
Sweet Peas, 1/2 oz. California Giants Mixed.
Big FREE Catalog sent with each order, also FREE Coupon for 1c—good with 5c order. Write today. Not connected with any other seed company.
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Direct to You

IF YOU are at all interested in **Home-Mixed Fertilizers**

I would like to send you my book on the subject. It contains full information, formulas and lots of information to farmers who want to get the most and the best for their money. The book will be sent free upon request by post card from you.

Dr. WM. S. MYERS, Director of Propaganda
17 MADISON AVENUE, NEW YORK
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The Name Burpee

is known the world over as synonymous with The Best Seeds That Grow! Are you willing to pay a fair price for selected seeds of the choicest vegetables and most beautiful flowers? If so, it may prove of mutual interest if you write to-day (a postal card will do) for THE 1912 BURPEE ANNUAL. This is a bright new book of 178 pages that is intensely interesting to every one who gardens either for pleasure or profit. Shall we mail you a copy? If so, what is your address? Our address is, **W. ATLEE BURPEE & CO., Philadelphia**

When you write advertisers Please mention Green's Fruit Grower.

SEEDS OF ALL THESE VEGETABLES GIVEN AWAY FOR TESTING

WE want every reader of this paper who has a garden to TEST these 6 splendid new vegetables. We know they will give such wonderful results that they will make thousands of new customers for us, and all we ask is for you to send your address at once plainly written on a Postal Card and we will mail you these 6 sample packets absolutely FREE for testing. Do it today before all the sample lots are taken.



Fancy Pickles—Here is a cucumber to be proud of. It is a marvel of beauty, grows very quick and just right size for pickling. You should grow this excellent variety.

40 Day Cabbage—Quickest growing cabbage in the world. Heads quick, very solid and splendid quality. Try it and you will say it is a wonder.

12 Day Lettuce—After once trying this variety you will say it is the quickest grower on record, always very tender, crisp and sweet.

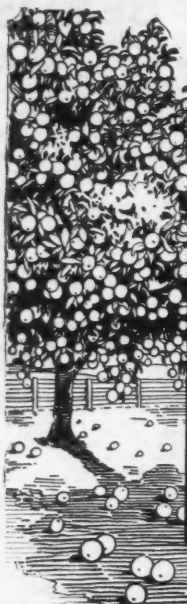
15 Day Radish—A wonder for quick growth. Will produce radishes fit to use in 15 days. Is very crisp and tender, nearest color.

New Sugar Parsnip—Very best variety for home use. Boils large, very smooth, flesh fine-grained, and excellent quality.

Remember we will send a Sample Packet of all these 6 varieties of SEEDS absolutely FREE to every reader of this paper who has a garden and will test them. Several dollars worth of vegetables can be grown from this lot of seeds. Write your name and address plainly on a Postal Card and it will bring them.

Our 1912 CATALOGUE of Vegetable and Flower Seeds, Plants, and Rare Fruits with our Special Bargain List with Color Plates, will be sent FREE with every lot.

Address—MILLS SEED HOUSE, Dept. 24, ROSE HILL, N. Y.



Fertilize for Fruit, Not for Foliage

A study of the formulas of fertilizers often recommended for fruits would give the idea that foliage and rapid growth is what you seek. The most of them lack fruit-producing

POTASH

Any fertilizer for fruits should contain at least 12 per cent. available Potash. The only Potash Salts that are safe for citrus fruits are Sulfate of Potash and Sulfate of Potash Magnesia (double manure salt).

Applications of such a fertilizer should begin at planting and continue during the life of the tree. It means earlier and longer bearing, larger yields, better grades and shipping quality, and a hard, solid, growth of wood. In all these ways Potash Pays. If your dealer doesn't carry 12 per cent. Potash brands or Potash Salts, write to us for prices. We will sell any amount from a 200-lb. bag, up. Write now for fertilizer formulas and how to make them for Fruit Culture, and special free pamphlet, *Orange Culture*.

German Kali Works, Inc.

Continental Bldg., Baltimore Monastnock Block, Chicago
Whitney Central Bank Building, New Orleans

THE STANDARD SPRAY PUMP

HIGH POWER—LOW COST \$4.00

Used with bucket, knapsack or barrel

Here is a pump that will spray your tallest fruit trees from the ground in half the time required by any other. Will whitewash your chicken coop, spray cattle "dip" and, with knapsack attachment, spray a field of potatoes as fast as a man can walk. Simple, easy working. Nothing to get out of order. Made of brass throughout.

Warranted 5 Years

Price \$4. Expressage prepaid

The only practical low priced sprayer for orchard, garden, field or vineyard.

Send no money now but write today for Special Offer and Catalog.

The Standard Spraying Co.
343 Main St., Marysville, O.

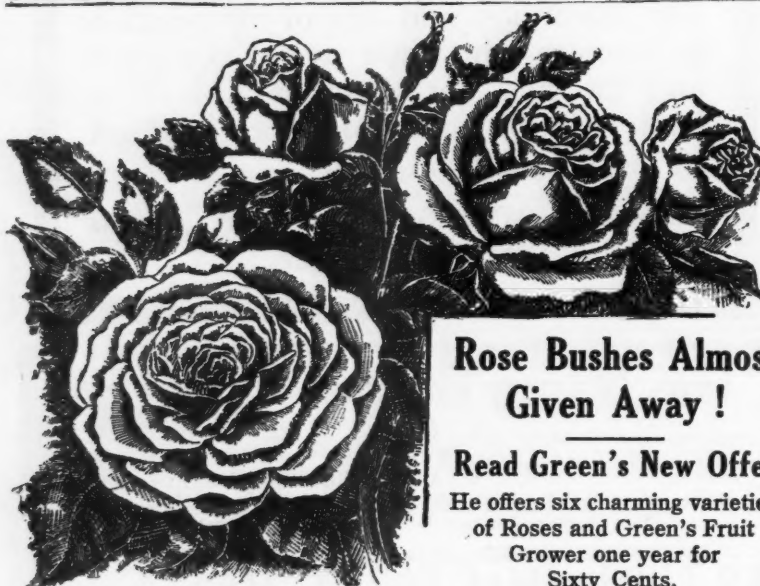


RHODES DOUBLE CUT PRUNING SHEAR

Pat'd June 2, 1903.

RHODES MFG. CO.,
GRAND RAPIDS, MICH.

THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.



Rose Bushes Almost Given Away!

Read Green's New Offer
He offers six charming varieties
of Roses and Green's Fruit
Grower one year for
Sixty Cents.

Here is a list of the roses to be mailed to you postpaid, one of each of six varieties and GREEN'S FRUIT GROWER one year, all for Sixty Cents.

Climbing Baby Rambler—crimson
Maman Cochet—shell pink
Kaiserin Aug. Victoria—white

Etoile de Lyon—yellow
Etoile de France—red
Champion of the World—deep pink

These six roses are grown in 2½" pots and are such as nurserymen plant by the hundred thousand in carefully prepared fields where they expect nearly every one to grow and form the two year old rose bushes of commerce. These rose bushes can be mailed at any time after February 15. State when you want them sent to you. Plant them in a well prepared bed or in the garden.

C. A. Green considers this one of the most attractive premium offers ever made with GREEN'S FRUIT GROWER, and one which will especially interest the ladies.

Send in your orders now and your subscriptions, stating when you want the rose plants mailed. Safe arrival by mail guaranteed.

GREEN'S FRUIT GROWER, Rochester, N. Y.

Please find enclosed Sixty Cents, for which enter my subscription to GREEN'S FRUIT GROWER for one year, which entitles me to six rose plants, as per offer, to be sent by mail postpaid.

Name

Postoffice

State

ORCHARD SPRAYING BENEFICIAL. Just How Well it Does is Illustrated at Indiana Exhibition.

On one side, a pile of scabby, worm-eaten apples, four-tenths of 1 per cent. sound. On the other side a pile of smooth plump beauties, 97 per cent. of which are sound, says Tribune Farmer. This is the argument the Purdue Experiment Station of Lafayette, Ind., puts up in behalf of spraying apple trees, says the Produce News. It is an argument which needs no explanation.

The apple exhibit is a new feature of the Purdue display this year. The two con-asting piles of apples are the center of interest. Taken from the same orchard, the first from unsprayed trees, and the second from trees that were properly cared for, they make an emphatic object lesson. Included in the display are boxes of apples from the eight demonstration orchards supervised by the Purdue experiment station. Colorado or Washington never produced a finer exhibit. These results were obtained simply by following the instructions of the Purdue experts. The owners of the orchards did the work and will reap the benefit of the improved methods. Their apples are selling for twice the amount paid for the average crop of other orchards it is said.

The enemies of the apple tree and the means of fighting them constitute another interesting part of the exhibit. There are enlarged plaster casts of the codling moth or apple worm, the most destructive pest that infests the apple tree, the San Jose scale and the curculio. Samples of pruning and spraying implements complete the exhibit.

"We sprayed our trees with the lime and sulphur mixture, yet the apples are filled with worms; why is that?"

"You should have added a portion of lead arsenate to kill the worms; the lime sulphur only destroys the fungus," was the reply, and the woman made a note of the suggestion.

"There is a great revival of interest in apple growing throughout the state," says the attendants. We are kept busy answering inquiries concerning the care of orchards.

Mark Twain at His Best.

Simple rules for saving money: To save half, when you are fired by an eager impulse to contribute to a charity, wait and count forty. To save three-quarters, count sixty. To save it all, count sixty-five.

When I reflect upon the number of disagreeable people who I know have gone to a better world, I am moved to lead a different life.

She was not quite what you call refined. She was not quite what you call unrefined. She was the kind of person that keeps a parrot.

Let me make the superstitions of a nation and I care not who makes it slaws or its songs, either.

It takes your enemy and your friend, working together, to hurt you to the heart; the one to slander you and the other to get the news to you.

One of the most striking differences between a cat and a lie is that a cat has only nine lives.

It were not best that we should all think alike; it is difference of opinion that makes horse-races.

None of us can have as many virtues as the fountain-pen or half its cussedness; but we can try.

The autocrat of Russia possesses more power than any other man on the earth; but he cannot stop a sneeze.

Let us not be too particular. It is better to have old second-hand diamonds than none at all.

The man with a new idea is a crank until the idea succeeds.

The Hickory Going, Too?

The Department of Agriculture has found out what it is that is killing off the hickory trees of the West. Says New York Mail. Toward the northern edge of the country occupied by the hickory, it has been commonly supposed that the rapid disappearance of the tree was due to the clearing away of the surrounding woods, which deprives the hickory of its shelter and of the support of other vegetation, and causes the tree to winter-kill. But the government attributes the slaughter to the hickory bark beetle, which, in and underneath the bark, makes grooves and burrows that look like centipedes, and which have the effect to kill the tree by girdling.

Luck.

James McCahill, who died a few days ago in Michigan, traded a \$1,500 house he couldn't sell for 160 acres of poor farming land. It turned out to be the richest iron ore in the country, a part of the Mesaba range, and yielded him \$10,000,000.

One prospector spent all the money he could raise in drilling for oil in Texas and stopped when he was within 300

feet of a great discovery. Another man kept on boring near by, struck a 30,000 barrel "gusher," and opened up the Beaumont field, striking a vast fortune for himself and making millions for others.

Yet some people refuse to believe in luck, and in general they are right. There are exceptions, but it will not do to trust to them for a living.—Baltimore Sun.

Moved—Glad to Get Back Home.

Editor Green's Fruit Grower:—I began to take and read your paper about thirty-one years ago. I have been encouraged year after year to set out fruit trees, vines and plants. In addition to this I have obtained many good ideas and much good advice by reading its pages month after month.

Although I noticed at different times in the columns of your paper advice to those who owned their homes to remain where they lived, I was induced about four years ago to sell my little farm, where I had built a good roomy house, and where I had trees, vines and plants growing around me. At various times I had received glowing literature from certain persons at Gravett, Benton county, Arkansas. They told of their fine climate, good water and health. Also that they had the best fruit country on earth, so I did what I thought I would never do. I moved out there with my family. My advice is to first go and see the country before moving to a strange place with your family. I saw at Gravett some of the largest orchards and some that were handled with the greatest care, so I was induced to buy a small farm of eighty acres that had a good sized orchard on it composed mostly of apple and peach trees. I was assured that if I did not like the place, the seller would either buy me out or find me a buyer. Well, I did not like the place, but they neither bought me out nor found me a buyer. However, I moved away anyhow and finally traded the farm for land elsewhere. One reason I did not like the farm was that most of the land was covered with hard flinty rocks, varying from the size of a marble to that of a house, so a man from a smooth country like Illinois was not likely to take kindly to grinding through the rocks with his plows and hoes. Then I found that the fruit crop often failed. Strawberries were their surest money crop. There are some good people there, also some of the worst land sharks I ever met. Some people were glad to get away with anything. One man bought a farm which he soon traded for an auto with a little money to boot.

I write this thinking that it may be the means of helping some others to keep their homes. I will say in closing that we are now back in the house we built before going away. It very fortunately happened that the neighbor who bought my farm did not need the house. An Illinois Subscriber to Green's Fruit Grower.

Buy a Spray Pump.

Even if you have no more than a dozen trees it will pay you to buy a spray pump. The barrel spray pump is what the average small fruit grower needs. It will be cheaper to buy the pump and then mount it on a good molasses or vinegar barrel than to buy one already mounted. Any man handy with tools can easily mount the pump on the barrel himself.

It is a poor economy to select a cheap pump. Get one with all the working parts made of brass, for if made of iron they corrode rapidly with the spray material. A pump with the working parts made of brass will cost more in the beginning, but will be cheaper in the end.

Fighting the Curculio.

The quickest and most economical method of fighting the curculio, where there are only a few trees, is to place a sheet under each tree early in the morning, as soon as the insects appear, and jar the trunk; when they fall gather and burn. This should be done twice a week for two or three weeks, when most, if not all of them, can be caught before the fruit is injured.

The plum, the damson, and the apricot are the fruits most injured. Slight attacks that attack the pear and other trees may be killed by dusting the leaves when damp, with fresh air-slaked lime. Apple trees should be sprayed early in the spring when buds commence to form; the blossoms fall, when the fruit is one-third grown and when half grown. The Bordeaux and Paris green solutions may be the best remedy. These solutions may be had already prepared at the agricultural stores.

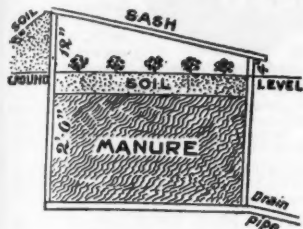
Commercial fertilizers are best applied to orchards after plowing, when they should be thoroughly worked into the soil by disking.

Trees true to name, healthy, of good productive strain, and free from insect pests are essential to success in an orchard and undertaking.

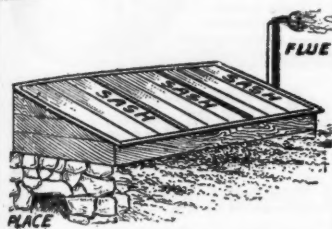
Hot Beds and Cold Frames.

From Government Bulletins.

The common method of starting early plants in the north is by means of a hotbed. The hotbed consists of an enclosure covered with sash and supplied with some of the heat, usually fermenting stable manure, to keep the plants warm



and in a growing condition. As a rule, the hotbed should not be placed within the garden inclosure, but near some frequently used path or building where it can receive attention without interfering with other work. The hotbed should always face to the south, and the south side of either a dwelling, barn, tight board fence, hedge, or anything affording similar protection, will furnish a good location.



In the north the hotbed should be started early in March, in order that such plants as the tomato and early cabbage may be well grown in time to plant in the open ground. But while the hotbed should be started in March it is well, where a permanent hotbed is wanted, to get it ready in the fall or early winter, before the ground is frozen too deeply.

A temporary hotbed, such as would ordinarily be employed on the farm, is easily constructed by the use of manure from the horse stable as a means of furnishing the heat. Select a well-drained location, where the bed will be sheltered, shake out the manure into a broad, flat heap, and thoroughly compact it by tramping. The manure heap should be two or four feet wide, eighteen to twenty-four inches deep when compacted, and any desired length, according to the number of sash to be employed. The manure for hotbed purposes should contain sufficient litter, such as leaves or straw, to prevent its packing soggy, and should spring slightly when trodden upon.

After the manure has been tramped and leveled, the frames to support the sash are placed in position facing toward the south. These frames are generally made to carry four standard hotbed sash. The front board should be about eight inches and the back about twelve. This gives the plants room to develop, and also sufficient fall to drain off the water. When the frame is in position upon the manure, the surface hotbed will appear as shown in figures 2. Three to five inches of good garden loam or specially prepared soil should be spread evenly over the area enclosed by the frame. Place the sash in position immediately and allow the bed to heat up. Do not plant any seeds in the bed until the temperature begins to subside, which will be in about three days after the sash are put in place. When the temperature has fallen to 85 or 90 degrees F. planting may be safely begun.

PERMANENT HOT BEDS.

A permanent hotbed may be so constructed as to be heated either with fermenting manure, a stove, a brick flue, or by radiating pipes from the dwelling or greenhouse heating plant. For a permanent bed in which manure is to supply the heat, a pit two to two and one-half feet in depth, according to the latitude in which the work is to be done, should be provided. The sides and ends may be supported by a lining of plank supported by posts four feet apart, or, what is better still, a brick wall nine inches thick. In either case the pit lining should come flush with the surface of the soil. The pit for the pit should be on naturally well-drained land, and a tile drain from the bottom of the excavation should be provided to prevent water from accumulating in the pit and stopping the fermentation of the manure during the period the hotbed is in use.

Standard hotbed sash are three by six feet in size. The pit therefore, should be some multiple of three feet in length and the width should be the same as the length of the sash—six feet. The plank frame of the brickwork of the pit may be extended above the surface of the ground sufficiently to allow for placing the sash immediately upon these permanent structures,

or a frame such as is described in connection with the construction of a temporary hotbed (Fig. 1) may be used. In the autumn the pit should be filled with leaves or straw and covered with loose boards or shutters to prevent it from becoming filled with snow and ice and in order that it may be ready for use early in March.

SASH.

Hotbed sash should be constructed of white pine or of cypress, and the sash bars should run in one direction only and that lengthwise of the sash. The bars may be braced through the middle by a transverse bar placed through the long bars below the plane occupied by the glass. The two ends of the sash should be made of sound timber, three inches wide at the top and four inches wide at the bottom end, mortised to receive the ends of the sash bars, and with a tenon at the ends to pass through the side pieces, which should be two and one-half inches wide.

CARE OF HOTBED.

At the north in addition to the glazed sash, board shutters, straw mats, or mats of burlap or carpet will be needed as an additional protection during cold nights. During bright days the hotbed will heat very quickly from the sunshine on the glass and it will be necessary to ventilate during the early morning by slightly raising the sash on the opposite side from the wind. Care should be taken in ventilating to protect the plants from a draft or cold air. Toward evening the sash should be closed in order that the bed may become sufficiently warm before nightfall.

WATERING.

Hotbeds should be watered in the morning only, and then only on bright days. Watering at night is dangerous, as the operation necessitates the lifting of the sash and the loss of the accumulated heated air, and the water itself lowers the temperature of the soil so that in cold weather there is greatly increased danger to the plants from frost. Then, too, the excessive moisture resulting from dampening the leaves and confining them during the night provides congenial conditions for the development of mildew and the damping-off fungus. After watering, the bed should always be well ventilated to dry the foliage of the plants and the surface of the soil; to prevent the plants being lost by this damping-off fungus or mildew.

COLD FRAMES.

Cold frames are devices intended to protect plants from cold, without forcing them to growth. They differ from hotbeds in that no artificial means of heating are employed. The cold frame in its simplest form consists of a frame constructed like the one described in the articles on hotbeds.

Acres of Sunshine.

The old masters gave us wonderful portraits through which the souls of men seemed to be exhibited. Modern painters seem unable to surpass the old masters in revealing human character in their portraiture, but in one way modern painters differ from the old masters and excel them. I refer to the painting of portraits outdoors in the sunshine. The old masters confined their brush work largely to portraiture. They did not spend much time in painting landscapes. The early American artists painted portraits and not landscapes.

The early life of man was in the shadow and not in sunshine. Early man lived in caves, hovels or in castles so poorly lighted and so dismal that they are considered today little more than dungeons or prisons. It is only of late years that sunshine has been discovered to be a valuable asset. Sunshine is one of the cheapest medicines known. Of late we are putting into our houses large windows, bay windows, glass roofs, and we are even building in some instances glass houses or glass rooms so that we may live as largely as possible in sunshine.

Long ago man discovered that in order to produce beautiful flowers in abundance in winter at the North we must build glass houses, but it was long after the erection of glass houses for flowers before we discovered that glass houses might be of great advantage to man and his family. Sunshine not only affects the health, it affects the disposition and temperament. For hundreds of years rural housekeepers have kept one room in the house secluded and darkened, the coldest, most dreary and most useless of all rooms, the parlor. How much more desirable and sensible is the modern idea of doing away with this monstrous parlor, uniting it with the living room and allowing the sunshine to penetrate every part of the dwelling.—Charles A. Green.

With fruit trees the constant effort should be to keep the fruit bearing surface as near the ground as possible. It will make the harvesting of the fruit much easier.

The woman who wants a string of beads isn't satisfied till she gets it in the neck.

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DETROIT ENGINE WORKS
Spraying Dept., Bulletin No. 107, Detroit, Mich., U. S. A.

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contains absolutely not a particle of filler or adulterant of any sort. Accepted the world over as the standard.

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The stickiest arsenate made. Preferable for Codling Moth, Curculio, Elm Leaf Beetle and Chewing Insects of all sorts, on trees, shrubs, vines, bushes and vegetables, where it is desirable that the poison remain longer on the foliage than is possible with other insecticides. Does not burn the most delicate foliage.

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10 BEAUTIFUL POST CARDS Mailed for 10c.
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with rig in every County to introduce and sell Family and Veterinary Remedies. Extracts should be Fine pay. One man made \$500 one week. We mean business and want a man in your County. Write us.
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2 1/2 H. P. Stationary Engine—Complete
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WHEN AND HOW TO SPRAY TREES. Former President of State Association Tells How to Combat San Jose Scale and Leaf Curl.

"When J. H. Hale, who is called the peach king, while speaking at a meeting which was held in Penn Yan a few years ago said, 'God bless the scale. It made us spray,' none of us believed him, but it is a great question in my mind if lime and sulphur would have come into prominence as a fungicide as quickly if it had not been that people who had to use it on account of San Jose scale saw the benefits that they derived from it as a fungicide.

"Now all of the up-to-date fruit growers prefer lime and sulphur to the Bordeaux mixture to control nearly any fungus disease.

"It will soon be time to spray peaches for the leaf curl and we must all get our spraying machines ready, so that as soon as the ground becomes settled we can get over it with a fair degree of comfort we shall be ready to spray the peaches.

"I shall use the Niagara lime and sulphur solution and shall use what is known as the dark or heavy mixture. While there have been instances when this mixture has made some trouble and would not go readily through the nozzles, we have found that the right way to handle it is to place a 60 or 75 gallon kettle so that it is solid; then, by placing some skids, we can roll a barrel of the solution on to the kettle, being careful to thoroughly shake the barrel so that the solution will be thoroughly mixed. Then knock out the

points might be seen that I would not think of enough importance to mention and any one is welcome to come.

"I want to say in conclusion that the frosts which we have been having for the last month have done great damage in certain sections, but I believe that our buds are alright here yet, and I hope that the growers in this section will take such care of their orchards that when we come to the harvest next fall we can be proud of the quality and quantity of fruit that we can show in the town of Sodus."

Virtue of the Apple.

The following, taken from the New York Tribune, is interesting as describing the medicinal virtues of the apple: "Do you know what you're eating?" said the doctor to the girl. "An apple, of course." "You are eating," said the doctor, "albumen, sugar, gum, malic acid, gallic acid, fiber, water and phosphorus." "I hope those things are good. They sound alarming." "Nothing could be better. You ate, I observed, rather too much meat at dinner. The malic acid of apples neutralizes the excess of chalky matter caused by too much meat, and thereby helps to keep you young. Apples are good for your complexion. The acids drive out the noxious matter which cause skin eruptions. They are good for your brain, which those same noxious matters, if retained, render sluggish. Moreover, the acids of the apples diminish the acidity of the stomach that comes with some forms of indigestion. The phos-



Willow Point Orchard owned by Dr. F. E. Squires, Livonia, N. Y., showing careful pruning and good management. Were I to make any suggestion for improvement, it would be that the pruning might possibly be so managed as to give lower headed trees. This could have been secured by leaving on more of the lower branches and cutting out some of the branches that extended skyward. The clusters of apples shown are the Jonathan apple.

bung and let the contents into the kettle so that it can be heated to near a boiling point. When this material is put into the spraying tank hot we have no trouble with the mixture going through the nozzles.

MIXTURE FOR LEAF CURL.

"The strength we shall use depends upon whether we have any San Jose scale or not. One gallon of the mixture to eleven gallons of water is strong enough to control leaf curl, but if afraid of San Jose scale it ought to be one gallon of the mixture to eight gallons of water.

"In spraying trees, in order that it should be effective, a thorough job must be done for leaf curl. Every twig must be hit on all sides. We have always found it necessary to go over the orchard twice. For instance, when the wind is north, being careful to hit the north side of the twigs that are on the opposite side of the tree, and when the wind is in the south going over it again, being careful to hit the south side of every twig.

"I should guess now that the week commencing Monday, April 10th, would be in time to hold the leaf curl on peaches. We shall go to spraying apples for the dormant spray just as soon as we are through with the peaches, using the same strength of the lime and sulphur solution as we use on the peaches. One gallon of the solution to eleven of the water is strong enough to kill the blister mite on apple trees, but if San Jose scale is present the Solution ought to be one of the solution to eight of water.

IDEAL TIME TO SPRAY APPLES.

"The ideal time to spray apples to control the blister mite is just as the leaf buds are breaking, but in order to get over large orchards we must start early enough to be through before the leaves start much, as the above strength of the solution will kill apple leaves.

"We take it for granted that the lime and sulphur solution used shall show a test of 33 degrees Baume. If the solution does not show that strength it must be diluted accordingly. It might be a good idea for any one who is not accustomed to the work to come to the Case farm and watch the men who are spraying for a few hours. Many valuable

phorus, of which apples contain a larger percentage than any other fruit or vegetable, renews the essential nervous matter of the brain and spinal column. Oh, the ancients were not wrong when they esteemed the apple the food of the gods—the magic renewer of youth to which the gods resorted when they felt themselves growing old and feeble. I think I'll have an apple," concluded the doctor.

The department of agriculture has issued a booklet denying the authority of the moon over mundane affairs and decrying the superstition that the planet has any influence upon plantage. But we dare say that it will take more than a mere pamphlet to convince the old-fashioned farmer that his pet beliefs are nothing but moonshine. The old-fashioned farmer believes as honestly in the moon's influence on plantage as the modern agriculturist does in fertilizers and drainage. The old-fashioned farmer would not kill a hog without determining the "age" of the moon, nor dream of putting in a fence-post unless the planet was in a propitious phase. His is a simple philosophy. If the moon influences the action of the waters, argues the husbandman, why should it not exercise some authority over the energy in the soil? It is a question that has not been satisfactorily answered in all the centuries that have rolled by since primeval man first looked with awe and wonder at the moon; and, in spite of new-fangled notions, we dare say that the old-fashioned farmer will keep right on killing animals, laying rail fences, and gathering herbs, and planting potatoes according to the "age" of the moon.

Mrs. A. W. Whitney brought four potatoes to town, the product of one hill, which weighed 6 1/2 pounds, the largest one of the four weighing 2 1/2 pounds.—Genesee Republican.

Dr. J. W. Cowan has a dog that is said to be a hustler on gathering hickory nuts. The animal pushes the nuts together in a pile with his nose, and then barks to have someone come and gather them up.—Genesee Democrat.

Go South Sir!

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Stewart Hartshorn

To Market Fruits At Home.

(Western N. Y. Fruit Growers Convention.)
The subject came up in the discussion of a paper on "The Peach," read by R. D. Graham of Grand Rapids, Mich. In his paper Mr. Graham spoke of the possibility of overproduction, and this subject was made the topic for general discussion when he had finished. It was suggested by several members of the society that if there were a market or store in the center of a locality like that which surrounds Rochester, where fruit could be marketed directly to the consumer, it would obviate the necessity of flooding the big fruit markets of the country and at the same time would increase consumption.

At present the farmers who raise fruits especially fruits like the peach which are easily perishable and must be marketed within a short period of two or three weeks, must sell their fruits abroad because there is no adequate market for them in this locality. The same is true of other sections of the country, and as a result, the big central markets are flooded with fruits which must be sold very quickly. Often this results in a sudden fall of price. At the same time it is frequently true that residents of cities like Rochester in the very locality where the fruit is grown are unable to obtain anything better than the poorest quality because the best has been shipped away to the larger markets.

PLANS SUCCESSFUL ELSEWHERE.

In other sections of the country the plan of bringing the producer and consumer who live in the same locality together by a retail fruit market or fruit store has been tried and has demonstrated its feasibility, so that farmers in such places have found no difficulty in disposing of their products at a reasonable price when growers elsewhere were forced to take the lowest and buyers were crying "over-production."



Here is what C. A. Green considers a prize winning strawberry patch with straw litter scattered between the rows to prevent the berries from being covered with sand and to act as a mulch to increase the crop by holding the moisture in the soil. Any man who has such a strawberry patch as this should be congratulated.

It was suggested that a retail market for the sale of fruit to the consumer might be established at the Rochester Public Market, which is now practically a wholesome market, but the pertinent suggestion was made that the market is too far from the center of the city to serve such a purpose. One member charged that "politics and the retail grocers" were responsible for its being located so far from the center of population, to make it impossible to utilize the market for this purpose.

President Barry expressed himself as heartily in favor of any plan which might assist in "bringing the fruits of the country into the possession of the people," and suggested that a committee might be appointed to consider the matter and report at the next meeting of the society. Many other members spoke along the same line. Action was deferred to resume the programme, which had been interrupted by the discussion, but it seems probable that a committee will be appointed to give the subject its consideration before the meeting adjourns.

"Just at present," said the speaker, "there is great enthusiasm manifest regarding apple culture. In the older fruit sections old and neglected orchards are being rejuvenated and many new ones are being planted, and in numerous new and untried regions millions of trees are being set. This is especially true of several states in the far west, where the industry is being exploited by numerous land and orchard corporations whose chief purpose seems to be to get the people's money, after which they are left to work out their own salvation on their five and ten-acre plots."

"This great revival is doubtless due to the high prices paid for fine apples in the general markets of the country for the past few years, and this year's large crop has added to the excitement and there is manifest an inclination to forget the peach—the biggest money maker in the entire list of domestic fruits."

BALDWINS IN FOUR YEARS.

What is said to be one of the most remarkable exhibits at Convention Hall is the display of seventy Baldwins, a full

bushel, by Samuel Fraser, of Geneseo. The Baldwin tree is known to be one of the latest to bear, but the seventy apples shown were picked from a tree on the fruit farm of Mr. Fraser after it had been set for only four years.

An exhibit of importance to farmers who make a specialty of fancy fruit is made by several Cornell students who pack apples in boxes. The exhibit is in charge of H. B. Knapp, of Port Byron, and E. L. Markell, both seniors in the Agricultural College at Cornell. The exhibition is intended to show the correct way to pack fruit.

There probably never will be a time when most of the apples raised in this state will be packed in boxes, and the sooner men who raise fancy varieties learn the proper way to pack, it is said, the sooner will competition by Western producers be met on an even basis.

FOUR HUNDRED AT DINNER.

Nearly 400 persons attended the annual banquet and heard addresses that were a mixture of humor and straight talk on apple growing and marketing. Professor John Craig, of the State College of Agriculture, was toastmaster.

C. H. Williamson, of Quincy, Ill., spoke on "Orcharding." He said there was no danger of the Western apple doing damage to the New York product, provided the Eastern grower would take more care in marketing. The Western apple he said was without taste. Advertising was the salvation of the farmer who could produce quality.

Robert D. Graham, of Grand Rapids, spoke of the farmers doing things for themselves. He said they wanted the government to do everything.

Secretary R. G. Phillips, of the International Apple Dealers' Association, warned growers that they must pay attention to packing. He said there was

a great falling off in the apple business for no other reason than that producers were packing apples in anything but the right manner.

Judge John D. Lynn was the last speaker. He defended the ultimate consumer, who would not pay the price at once but must be educated to good goods at good prices.

Which Are The Best Plums For A Commercial Orchard?

This depends largely upon where you expect to market the plums. I would mention Burbank as one of the valuable Japan plums. Niagara is a reddish plum of marvelous size and productiveness. York State is a popular plum of large size. German prune is an excellent variety in great demand by housekeepers, as is the Fellenberg, Thanksgiving plum, Shropshire Damson. Lombard is one of the most productive of all plums. It is very attractive and one of the most popular and most frequently planted of all plums.

When is The Best Time to Prune?

Those who have small orchards or berry fields or vineyards and who can prune them at any season should defer pruning until the severe freezing of winter is past, which in this latitude is in April. But those who have large orchards, berry fields and vineyards must make use of the warmish days of winter. Trees, plants and vines can be pruned any time when they are not in leaf.

May Quince Trees be Cultivated The Same As Apple Trees?

No, they may not, for the roots of quince trees come nearer the surface of the soil than do the roots of apple trees. A quince orchard should be cultivated very shallow and the ground never plowed so far as the roots of the trees extend, where it is possible to keep the ground free of weeds with the shallow tooth cultivator. Since dwarf pear trees are on quince roots, a dwarf pear orchard should be treated the same as a quince orchard as regards cultivation.

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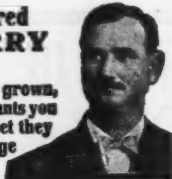


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Fruit is the latest expression of Nature in the evolution of foodstuffs in response to the urge in the individual for a more refined diet, says Health Culture. The mind began to feel the need for subtler nourishment to sustain the stirring yet feeble impulses toward a higher, more sympathetic life. In the fruit we have the highest form of nourishment which ingenuity as yet has caused to be evolved. The high potential of its composition; its readiness to enter into the vital processes of physiological chemistry; its combination of nutritive energy and ease of digestion and freedom from waste matter, gives to fruit a dietetic value unparalleled in the scale of any other natural foods.

Furthermore, the constantly increasing demand for fruit as part of the human dietary, with a subsequent increase in the quantity and quality of its output, indicates a general ascent of human life all along the various avenues of its expression.

The advent of the reign of fruit in the realm of diet is significant. It stands as an answer to a demand for higher ideals and modes of life. For it is a mistake to regard human nature and physical nature as entities progressing through separate and airtight compartments. Mind and

Against America.

The Continental European farmer is infinitely more effective than the American farmer, because he is more careful and less wasteful.

A great movement to increase rural efficiency is in progress in Austria and America needs something of the same sort.

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Night life, says Mr. Edison, is much maligned; it means progress and efficiency, and stupidity and night life do not go together.

Too much sleep may be a national curse. One added hour of night life will do wonders with a nation.

Law means law in Germany; in the United States it does not; and this is particularly true of building laws to prevent loss of life by fire.

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Indian trail, one of the inviting walks in Seneca park, Rochester, N. Y., extending through a natural grove where wild flowers bloom and birds are musical.

matter, form and idea, spirit and substance, in every ramification of life and consciousness, follow the same principles and orders of expression, are subject to the same laws of rise and fall, of growth and decay, of evolution and involution, of mental impulses and material reaction. Environment constitutes the experimental field of universal evolution, where the unceasing play of moral and spiritual impulses responds in individual type and character, with the subsequent expressions of moral, mental and instinctual development.

Nature advances only to the extent man advances. Mentally, she responds to human thought and imagination with the same necessity as she physically responds to the seeds and nuclei of growth deposited in the soil. If the seed is degenerate, the resulting growth also becomes degenerate; while with no seed nature will yield no response at all—a fact equally applicable to conditions pertaining to the culture of the mind. The purity, or non-purity, the culture or non-culture of the latter, will result in that refinement or brutality of human nature; that noble growth or degenerate output of vice which constitutes the subject matter of the leading world motives as recorded by human history all throughout the ages.

Any time after the leaves have fallen and before the sap begins to flow, pruning may be done. By making the pruning an annual task the labor is lightened and its efficiency increased.

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Germany has taken her City Governments out of politics.

Graft, as we know it here, does not exist in Germany.

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And Germany is very prosperous while we are grumbling at hard times.

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How to Make Good Vinegar.

Use only sound windfall apples for the making of cider, free from rot of any kind; let the cider remain out of doors until as much of the impurities of it as can be are worked off; then put it into the cellar to remain until it becomes vinegar, which will be in almost a year, when it should be "racked off" before it is ready for use. Cider and vinegar barrels must be thoroughly cleaned and perfectly free from the "mother" that many people believe a necessity to constitute good vinegar. "Mother" is the impurities of cider, and none of it should be allowed to remain in the barrel. If any of your neighbors think otherwise, give it to them for their vinegar; perhaps they will feel happy for the gift. Don't put in any corn, molasses or anything else to hasten its consummation. Time is all that is required.

Don't sell all the good apples. Keep some of the best for home use. Nothing is too good for us farmers.

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It can be set to stir the soil any depth desired, and to cultivate outside the row or between the rows, one-third quicker than any other garden cultivator. Easier to push than a lawn mower. No garden can afford to be without one. Write for descriptive catalogue and testimonials. If your local dealer does not handle them, write us for special introductory price.



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PUZZLE PICTURE
What is lacking, what is wanted, or what is the best title for the above cut? The individual who sends in the best answer to the above puzzle together with his subscription for Green's Fruit Grower will receive a gift of Three Dollars. Competition on this puzzle will close April first.

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Operates from ground. No breaking of limbs by climbing. No moving of ladders. No sawing of wrong limbs. Can reach topmost branches and shape tree better than by old methods. Will save its cost in one day. Nothing to get out of order. Will last for years. Thousands in use. Recommended by all users. If your dealer can't furnish it, write for full descriptive circular and prices. Satisfaction guaranteed. Address: FRUITGROWERS' SAW CO., Scottsville, N. Y.

Government Whitewash.

We give below the formula for government whitewash. We believe this should be published at least once each year to encourage its use on the farm. This is the season when stables, cellars, fences and other structures should be white-washed. Paint is unusually expensive, hence the demand for a serviceable whitewash that can be used as a substitute. Coloring matter may be added if the user so desires.

Take a half a bushel of unslacked lime, slack in warm water, cover it during the process to keep in the steam; strain the liquid through a fine sieve or strainer; add a peck of salt previously well dissolved in warm water; three pounds of ground rice boiled to a thin paste and stirred in boiling hot; half a pound of powdered Spanish whiting and a pound of glue which has been previously dissolved over a slow fire.

Add five gallons of hot water to the mixture, stir well and let it stand for a few days, covered, to keep out the dirt, strain carefully and apply hot.

Any one may take gold to the United States Mint and have it coined. After the metal has been assayed to ascertain its degree of purity, it is next put through a process which removes all foreign material from it. As pure gold would be too soft for money, an alloy is then added to give it the proper degree of hardness. It is next put through what is known as an annealing process, in which it is run between rollers, heated and worked over again, and put through rollers once more until it becomes a thin bar of gold. This in turn is put through a giant stamping machine which acts like a huge cake cutter, cutting hundreds of little golden cookies out of the bars of gold. These little golden cakes are next put into a huge squeezing machine, with engraved dies above and below them, and are squeezed with a pressure of 275 pounds. When they come out they are money. The same process is used in the making of silver, nickel, and copper coin.

The government makes a profit on all coins except those of gold. The difference between the actual value of the metal in a coin and the face value of the coin is known as seigniorage. The metal in a one-cent piece is worth only a small fraction of its face value. The remainder represents a clear profit to the government. Every time a coin is lost, Uncle Sam makes the difference between its actual value and its face value. How many of these get lost is shown by the fact that although the little half-cent pieces that were issued many years ago are very seldom seen nowadays, over 8,000,000 have never been returned to the Treasury.

Modern Perils.

"Jorkins, poor fellow, came from the country to see New York. The noise and confusion of New York quite upset him. Threading his way across a busy street, he thought he would go mad.

"Clank! Clank!"

"Jorkins leaped to the right just in time to escape a motor car.

"Ding-a-ling! Ding-dong!"

"He darted to the left from under the very wheels of an automobile fire engine.

"Hum-m-m!"

"Jorkins, looking up in the air, now saw a monoplane, its tail smashed, falling straight upon him. He glared wildly around, caught sight of a manhole, lifted the cover and jumped into the black hole just in time to be cut in half by an underground electric train.—Washington Star.

Get an Automobile.

Nothing is so conducive to the attainment of maximum enjoyment and satisfaction in the use of a motor car as the fact that its axles, transmission, differential, steering gear, springs and other vital parts are built of the very best material obtainable in the market, says R. E. Olds, president of the Reo Motor Car Company.

In our completely equipped modern laboratory all the material used in the Reo Fifth is thoroughly tested. Not a gear, bearing or other vital part, even to the minutest screw, nut and bolt, enters into its construction but measures up to the rigid Reo standard of strength and hardness. Our gears are all carefully tested in a crushing machine, capable of fifty tons' pressure. The usual test is a hammer test which, to say the least, is unscientific and inexact.

In our crushing machine we learn exactly what a gear will stand. Here lies one of the secrets why the Reo the Fifth made so enviable a record as official pilot car in the last Glidden Tour from New York to Jacksonville.

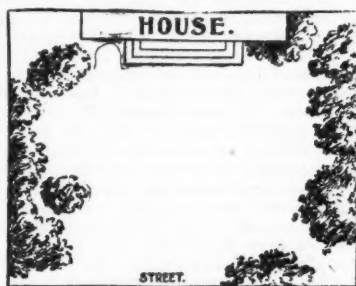
The diameter of the rear axle has been enlarged and the axle shafts are built of nickel steel. It is subjected to chemical analysis, to crushing, to gear tests and to tests of tensile strength. The weakness of most cars is found in the rear axle. Nothing in our mechanism shows a larger

margin of safety. Nothing has more exact scientific attention.

The differential gears have been greatly improved. The gears are made heavier than ever before. The differential is designed for 45 horsepower. With a thirty horsepower motor, this leaves a wide margin of safety in one of the most vital parts of the car. No one need ever worry with a Reo when driving over rough roads. The transmission is amply provided with the best Timken rollers and Hyatt high duty roller bearings. In no other car made is ampler provision made for every form of torsional strain in the transmission. Here again the widest margin of reliability and efficiency is provided for.

The driving shaft is of the flexible sliding type which is peculiarly adapted to rough roads in that it guards the rear axle and other vital parts of the car against unusual shocks and strains.

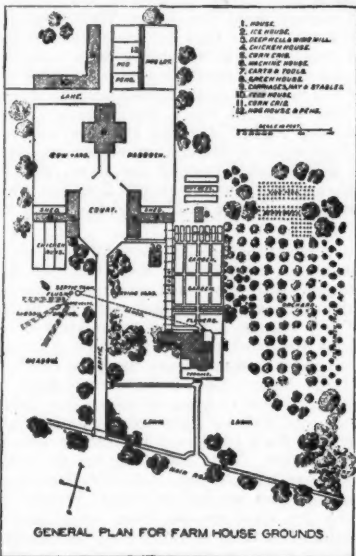
These are a few of the many reasons why we are now, even at this early date, being literally flooded with specifications for early deliveries of Reo the Fifth which is the twenty-fourth model which I have built and which I believe comes nearer being the ideal family car than any car ever built. What is best of all, our various economies and great production permit us to sell it at a price which the average man can easily pay. On the other hand its strength throughout insures the lowest possible cost of upkeep.



"THE RIGHT WAY IS TO LEAVE OPEN SPACES."

The above illustration gives C. A. Green's idea of how the planting of trees, shrubbery and flower beds on the margin or borders of the lawn should be made, leaving a wide expanse of lawn about the dwelling. Clusters of low growing shrubs can be planted at the corners of the piazza and around the foundation of the walls of the house, and grape vines and ornamental climbers can be trained over the porches and verandas.

The cut given below is a more formal method of planting which the Editor of Green's Fruit Grower does not greatly favor. This lower illustration is simply



GENERAL PLAN FOR FARM HOUSE GROUNDS

given for what it may be worth to subscribers in assisting them in planting or laying out their grounds. The plan for fruit and vegetable garden near the house is well arranged and is suggestive.

Advice About Building a Cold Storage House for Fruits.—In reply to W. H. Anderson of Utah I will say that no person should build a cold storage house simply from a published communication. Before putting up an expensive building experts should be consulted and followed. You made a mistake in permitting air holes in the outside layer of cement blocks. There should be at least three and possibly four absolutely tight air spaces in all the outer walls, and these air spaces should be from two to four inches in width.

I have recently built what may be called a cold storage house, in which there are five air spaces, the material used being hollow tiles, each tile having two air spaces. Two tiles were used and the tiles were placed four inches apart, making five air spaces of four inches above,

the air spaces made as tight as possible to prevent all egress of air. The frost came through all of this tile, therefore, I made another air space by furring on the inside and lathing on the furring and plastering on the inside of that.

I do not claim to be an expert in cold storage house building. Madison Cooper of Calcium, N. Y., is an expert, but you could not expect and expert to give his advice without receiving some pay. Generally speaking, if the building is made frost proof it will keep out the warm air as well as the cold, but proper ventilation should be secured, fresh air entering from the base of the wall on all sides and escaping through windows at the top of the building. All ventilating openings should be made so that they can be closed when necessary.

In reply to your inquiry I will say that I think Elberta peaches can be shipped eight hundred miles in refrigerator cars, in bushel baskets if they can be packed so that the fruit will not rattle, but I should prefer ordinary peach baskets. It will be necessary to pick the peaches when they are hard and before they are ripe. Elberta is one of the best shippers of all peaches.

Advice About Planting Grounds.

Reply: to John Haupt: No person could from the diagram you send or from any diagram, give an intelligent idea as to what should be planted. On my own place in this city I was obliged to cut out hundreds of trees, a few at a time, giving each tree careful thought, and delaying the cutting until I was sure that it must be removed. My wife pleaded with me not to cut out the beautiful trees that had to be sacrificed for the beauty of the place. It requires good judgment to know where to cut out and what to leave.

The view in front of your house should not be obstructed by any tree unless you have a particular desire for retirement and seclusion. The new way to plant is to set trees and shrubbery on the borders of the lawn, leaving wide open spaces for lawn. Do not scatter trees and bushes all over the place but group them so as to permit of the open lawn.

Down Fine.

"Now, Willie," said the superintendent's little boy addressing the blacksmith's little boy, who had come over for a frolic, "we'll play 'Sabbath School'."

You give me a nickel every Sunday for six months, and then at Christmas I'll give you a ten-cent bag of candy.—December Woman's Home Companion.

\$1,000,000.—The man of business, whether he is a banker, butcher, or baker, who comes to his home so much occupied with his business thoughts and plans that he is not a husband to his wife nor a father to his children, but only the man of business, is a pauper, though he should accumulate \$1,000,000. The purpose of life is not the accumulation of money, but is the formation of a righteous character.

Some of the biggest men in our pulpits have gone down under sin. No man can by eloquence stand long in a pulpit if he has lost his character. Why should men pile up money for drunken sons-in-law to squander? Give while you have ability to give the proper direction to your wealth and can put it to some use that will be of value to the world.—Bishop J. W. Hamilton.

The label on a glass jar will keep clean and will stick much longer if pasted on the inside. Of course this applies only where dry materials are stored in the jar, such as seeds, rice, tapioca, &c.

He had had much experience of physicians and said, "The only way to keep your health is to eat what you don't want, drink what you don't like, and do what you'd druther not."

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Those of us who have loved ones sleeping in "the dark and voiceless chambers of the dead" can give fitting expression to our remembrance by making their last resting place beautiful. Republic Fences are substantially built in various pleasing designs. Cheaper than wood; permanent. Special prices for churches and cemetery associations. Write us.

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Think of the years galvanizing has added to the life of fence wire. Galvanized Peerless Gates will give the same additional service—carry a heavy rust-proof coat. Big, massive frames of high carbon steel tubing; filled with close spaced Peerless Fencing of all No. 9 wire. Fitted with a handy double latch—a barb wire top for safety.

SELF-RAISING GATES lift themselves—no dragging or lugging—raise and swing over snow, grass or rubbish. Save time, temper and trouble. The "hurry-up" gates—always on the job—always work. If there is no Peerless dealer in your town, write direct.

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The only kind of wagon that ever should go into the orchard or fruit patch. So low down that it's twice as easy loading and unloading filled barrels, boxes, baskets and crates as on a high wagon.

Use a low Electric Handy Wagon one day with any kind of hauling you have to do and you never will use a high-wheeled wagon again.

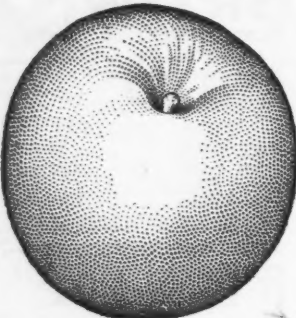
You can drive under trees where limbs hang low without knocking off fruit. Drive around and into places you can't go with high wagons. Also saves half the labor of spraying, fertilizing, hauling trash, etc.

Steel wheels carry any load. No tire setting and no wear-out to them. Broad tires do not rut soft ground, but make draft light.

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Codling Moth—Spray as soon as the blossoms have fallen and repeat ten days later.

Bud Moth and Case Bearer—Spray as soon as the green leaves show in the buds.

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Rose Bugs—Spray the young foliage before they attack the blossoms.

Cherry Slug—Spray when the slugs appear, and repeat on their reappearance.

Elm Leaf Beetle—Spray when the leaves first appear, and repeat as often as pests are found attacking them.

Tussock Moth—Spray when the Caterpillars feed.

Curculio—Spray just after the buds burst and before the flowers open. Spray again soon after the petals fall.

Small Chewing Insects in General—Spray as experience, common sense and information dictate.

TO MIX—Take 4 or 6 lbs. of LION BRAND ARSENATE OF LEAD, put in a pail of water, stir until a fine creamy substance is produced. Add this to each 100 gallons of water or spraying liquids, 10 lbs. to the 100 gallons can be used without injury to the foliage.

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TRIM YOUR TREES FROM GROUND.

No climbing. Great labor saver, leading orchardists use them. Thousands in use; 8 ft. handle \$1.60. Write for circular. Agts. wanted. The Ideal Pruning Saw Co., W. Webster, N. Y.

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708 Fifth Avenue, Cincinnati, Ohio

"Back to The Country."

(Concluded from Page 32)

to by April 18th, and while George began work on the garden, I turned my attention to arranging the camp and making a home out of it. As I said, it was 10 x 30 feet, shed roof, six feet high at back and ten feet in front. There were three large windows in highest side towards the south to give plenty of light for the hens when it came their turn to occupy it. It made the place none the less pleasant for us while we stayed. Had a door in each end of the building and a good board floor. Only a pipe chimney so I could use a range instead of an oil stove, for cooking purposes. The roof was covered with tarred paper and I felt proud to see how cosy the little place was, when I had put an old woolen carpet on the part to be used for sitting, dining and sleeping room combined. Put oil cloth on floor of the ten-foot space to serve as kitchen.

"In this room my husband made a closet for dishes, also a shelf for water pail. The range stood in one corner of back wall and behind it I hung fry pans and other cooking utensils. Had a big refrigerator to keep food in good condition. George cut a trap door in kitchen floor to make room to sink a wooden box, giving me a chance to keep any glass jars I might fill with either fruit or vegetables during the summer. To save expense, had no wooden partitions between rooms, but used some old draperies, that could serve when necessary and at other times be pushed back out of the way. Had a table built on front wall of kit hen under window for a cooking table and to wash dishes on. Under this table was kept the barrel of flour. In the sitting room against back wall nearest kitchen, was placed a cabinet bed and opposite that on front wall was a dressing case with long mirror. Then beyond the bed came a couch for comfort, and behind that a wide mantle about six feet from the floor had a cretonne curtain hanging from it to hide our best clothes which were hung on nails behind it. Then at the front side had a small dining table with a straight chair at each end of it. Two good comfortable rocking chairs stood in middle of room. I found space also for our two trunks and after I had made box-shaped cretonne covers to fit over them served the double purpose of extra seats when company came and a place to keep bedding, towels and table linen. On the mantle back of the couch we put a few books, clock, a vase for flowers and a big reading lamp.

"I had a hanging lamp over the dining table and a bracket lamp in the kitchen. Screens at all the windows and doors, shades and sash curtains at the three windows, a wall pocket held newspapers. Every inch of space was turned to account, and when all was in order, we felt as rich as though it were a palace, for it was the first home we had ever owned, and even if it were only a hen house we were just as well satisfied. The lumber for the real house had by this time arrived, and the cellar was partly done. The garden was ready for seed by May 1st, and great plans were made as to what was best to plant and how much. My husband must have good judgment, because the garden was a perfect success. Green peas sold to the 'summer people' for 50 cents a peck and from that vegetable alone we received \$40. After the peas were gone by, George planted cabbages and turnips on that same ground. Found a ready sale for other products of the garden, and when the harvest time came and we reckoned the amount sold, it footed up to \$79. We had eaten all the garden truck we needed on our own table, the hens and chicks were furnished lettuce and beet tops and there was left to put into the cellar for winter three barrels of potatoes, turnips, carrots, cabbages, enough for family and poultry beside 87 jars filled with shell beans, green beans, rhubarb, tomatoes and small beets. Raspberries and blueberries to the extent of 20 jars that I had found time to go into the fields and pick when they were ripe. So felt well pleased with the contents of the fruit closet. The chicks hatched in due time and numbered 27, we gave them all to one hen and she raised 25. We kept adding to the flock from time to time and had some 'sitting' up to July 1st, though in the future shall do all the hatching before May 1st. When our real house was done it was high time for us to give up the camp to the poultry. So we vacated and put the chickens in camp and built another poultry house the same size and put the old hens into it. After the cockerels were sold off at Thanksgiving time, we had 60 pullets. The money received from sale of cockerels paid for the keep of pullets to laying time. The old hens, 30 in number had laid eggs enough to pay for their own food.

"Our house has six rooms and during this past summer, we rented all three chambers and received \$70 for that. Mr. Ayer has, as you know a pension of \$12 a

month and had added to our income for the first year \$120 by carpenter work. When winter came I did dressmaking enough to buy the few articles of dress I need in this place where comfort is considered before style. We have not run in debt for anything yet, and now at the close of the second summer, have 200 pullets, have sold off part of the old hens, eaten a few and shall keep only 50 of the best for breeders, as we believe those better for that purpose than the pullets. I find we have cleared \$1.50 per hen this past year and am confident we will do better next. Our limit on this place will be 300 in flock, which will mean building the third poultry house. I admit there is more real hard work to raising chickens than I realized and I wonder we have been able to do so well with no previous experience to help us. Sometime I mean to have a big poultry plant and use my head while others use their hands working it. But it is always best to start in a small way and take advantage of the unavoidable mistakes. Never make the same mistake twice. Right here just to show you how little I knew about the breeding of poultry when we began, I will tell you a funny experience of mine, which seems more laughable now than it did at the time. After we had bought our few hens and put them in a yard, there seemed something lacking to make it sound like other flocks and I realized it must have a rooster to wake us in the morning and also give life to the otherwise silent place. So one day I went away to a nearby town to visit a friend who had always kept a rather mixed flock of hens for the use of his own family. I persuaded him rather against his will to sell me two fine Plymouth Rock hens at \$1 each and then among his birds I saw the prettiest rooster I had ever seen, such a variety of colors in his feathers that I wanted him at once and asked the price of him with some hesitation, fearing the man would not part with such a fine bird, but he said, 'why if you really want him, you may have him for 75 cents.' I was delighted and anxious to get him home for George to see. The man boxed the hens up in one crate and the rooster in another and they went home on the same train with me. We reached home about dark, and after supper George took a lantern and went out to open the boxes. I followed to see him admire my beautiful male bird. The box of hens was opened first and were pronounced good. Then the rooster was lifted out and placed on the ground and after looking him over, George said: 'What in the world did you buy that thing for?' I said: 'Don't you think him pretty?' Well he replied. 'If you bought him to wear on your hat, he might do, but he is certainly good for nothing else.' I was much disappointed of course, but decided to keep him a few weeks to fatten him enough to make a good dinner and so be able to get my money back on him. Well George killed my fine fellow to have for dinner one Sunday that company was coming for the day. I fixed him and put him on to cook in a new agate kettle and the went to the boat to meet my guests. The boat was rather late and I waited nearly an hour until it arrived; when we reached the house and I opened the door, we all thought the place was on fire, for the rooms were full of smoke and the smell of burning flesh.

"On reaching the kitchen I found bird and kettle ruined and both had to be dumped into the ash barrel. George said to me, 'you see he was not even fit to eat.' I managed to get some kind of a dinner for my friends, but the odor of burnt meat was so strong we didn't enjoy eating. Now when I want to buy a rooster I send George to select it. Next season we will be able to use eggs from our own flock for hatching and so lessen the expense. This last year we used an incubator of 150 egg capacity that was given us and we find it much easier to hatch by that means than with hens, because the best of hens are unreliable, whereas a well regulated machine can be depended on to do the work satisfactorily. We use the unheated brooders and find them all right. George made them at very little cost. The first year, one of our mistakes was feeding wet mash to the young chicks and lost a good many from bowel trouble, which we have avoided since adopting the dry feeding system. All our products are sold at our own door which save much of our time and the expense of keeping a horse. It is interesting as well as healthful business, and would advise anybody of small means, if tired of the drudgery of city life, to do as we have."

By this time the fire had burned low and the 'silent partner' was quietly sleeping in his chair. So we parted for the night, and when I said "good bye" to my friends next day, after promising to come again as soon as possible, I felt sure in my own mind they had made a successful venture and they deserve to do well, because neither is afraid of hard work.

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Equally effective for all sorts of aches and pains the result of taking cold, overexertion or strain.

Constipation, Biliousness, Indigestion, etc.

Brandreth's Pills

Entirely Vegetable.

Renewing Old Orchards.

What we have done for our old orchard on a small scale can be done in thousands of others on a small or large scale, and will return their owners a good profit before a young orchard would even come into bearing. Apples are high now, so now is the time to grow them, for by the time the young orchard comes into bearing they may be so cheap or other obstacles present themselves, that there will not be the profit in them that there is today. Make your money today and spend it to make yourself and others happy, and at the same time set another young orchard to be coming on for your old age or for your children—or someone else's children. Old trees as a rule heal over very slowly, so it is advisable in all cases to have some paint and paint over the larger limbs that are sawed off; indeed it would pay to chisel out the dead wood and fill the cavities with cement, if one were not in too big a hurry.

In pruning we must bear one point continually in mind, and that is to get the tree as low headed as possible. If you want profit from the start you may have to leave the tree a little taller than you like, with a view of cutting it down lower when the lower growth is sufficient to make the entire head, but always bear this part in mind when pruning—a thorough job of spraying is next to impossible in a tall tree, besides you will want to be up to date and thin your apples and raise great big ones to show your neighbor what you can do after he has been laughing at your efforts all summer long.

It may be that the old orchard needs a tonic in the way of some manure or commercial fertilizers. However the chance is that all it needs is a good plowing, not too deep, and after cultivating awhile sown to some cover crop, such as cow peas or vetch. If the ground is too rolling, rye may be sown to keep it from washing through the winter. Your old trees may be so low in vitality that they will not bear the first season; if not, they will undoubtedly set the fruit buds for the next season.

It is advisable in some cases to cut off all the large limbs and start a new growth, either from a few little sprouts or from those that will spring up from the body the first season; care also should be taken to scrape off all the old bark, I am sure, for here and in the dead spots are the spores and eggs for infection the following season. Of course the majority of them are subdued by the spray, but enough escape at the best. I think here is where we got our supply of curello, under this old bark.

If there is a blotch in these old trees, all of the infected twigs should be cut out, then there will have to be a treatment of bordeaux applied to control it, as the lime-sulphur will not be effective. Directions for this will be gladly furnished by your experiment station.

The idea of putting new life into the old orchard is not altogether a new one, but it is one which has received but very little attention, because the fruit tide has not been as high for years as it now is, therefore, in their eagerness to get fruit in the shortest possible length of time, this idea is to become very popular in the near future, no matter what your neighbor says about it.—Omer R. Abraham of Indiana, in the Fruit Grower

Scraping Bark From Trees.

As to the advisability of scraping rough or shaggy bark from apple trees, the state zoologist of Pennsylvania has the following to say:

"This depends upon the conditions in general. I would advise such treatment, especially for the rough, scaly bark of old trees; but if it be bark that has been roughened by the injurious action of oil sprays, or by burning with fire or some other injury I am satisfied it would be wrong, because this is the tender bark beneath just what a scab on an animal is to a sore which it is protecting. Therefore, if the bark beneath be tender, so that it would be injured by being scraped it is best not to do it. In the case of an ordinary healthy tree it is certainly best but at injured places, such as above mentioned, it is advisable to scrape gently, if at all. On an old tree one can not apply enough pressure with a short handled hoe or bark scraper to do any injury and this will remove many insect pests, such as codling moth, woolly aphis and certain hibernating creatures, and expose scale insects and other pests to the action of the weather, and of the insecticides to be applied before the leaves appear."

The Cost of Spraying an Orchard.

Our orchards are forty acres some two miles from a railway with about 1,500 bearing apple trees of which 950 are Winesaps. Another twenty acre orchard is some four miles away, having about 1,100 bearing apple trees of several kinds, says George H. West in Denver Field and Farm. Headquarters are at the larger orchard so its expenses are less usually than the more distant one from

home. The cost of the last pruning in the larger orchard was 13.9 cents a tree or \$5.21 an acre. For the smaller orchard it cost 11.5 cents a tree or \$6.40 the acre. The trees are mostly fourteen years old in the larger orchard and thirteen years in the smaller one.

For spraying we use the Morrill & Morley Eclipse No. 6 hand spray pump with two lines of one-half inch hose for the two orchards using five oil barrels to a wagon with removable cover to which the pump is attached. We prefer the Friend angle nozzle to any other. As our trees are of low spreading growth we spray entirely from the ground, using ten foot rods. Our hose is in about fifty foot lengths and we spray entirely around three trees on each side of the wagon at each stop completing two rows when we reach the end. Our tree rows are thirty feet apart and the trees in rows are twenty feet apart in one orchard and fifteen feet in the other.

We keep extras on hand such as hose couplings, washers, spray nozzles, pump valves, screens, etc. For years we used Swift's arsenate of lead but last season used Reynolds-Devos and Sherwin-Williams and all proved good. Years ago we paid fifteen cents a pound for arsenate, the past year eight and one-half to nine cents a pound f.o.b. our station. We used two pounds of arsenate to a barrel of water—say forty-five gallons—on the first spraying in early May and one and one-half pounds to the barrel for the second spraying about August 1st. On the first spraying of the forty acres it cost 2.8 cents a tree for arsenate and 8.3 cents for labor or 11.1 cents a tree total. It cost \$1.05 for arsenate and \$3.11 for labor or a total of \$4.16 the acre. The second time on the forty with the finer spray cost .4 cents the tree for arsenate and 2.2 cents for labor or 2.6 cents a tree total. The acre cost was 16 cents for arsenate and 88 cents for labor or \$1.04. We used seven gallons to each tree on first spraying and one gallon each the last time.

Spraying the twenty acre tract the first time cost 1.4 cents for arsenate and 4.4 cents for labor or a total of 5.8 cents a tree. The acre cost was eighty cents for arsenate and \$2.47 for labor or \$3.27 the acre total. We used 3.3 gallons of spray liquid to each tree this time. The second spraying cost for arsenate was .9 cents and for labor 2.6 cents or a total of 3.5 cents the tree. The acre cost was 28 cents for arsenate and \$1.10 for labor or \$1.38 total. This time we used 1.5 gallons the tree. Fearing delays in covering both orchards of sixty acres with one hand pump at first spraying we used a second wagon with five barrels which were filled with arsenate mixture, the full wagon replacing the empty one right on the spot so that the spray pump and spraying was kept constantly going, each man running a spray line, pumping in turn. We had less than one percent, wormy apples the past year out of the 8,520 boxes.

The Hunger for the Land.

Land hunger is the only kind of hunger that strengthens a nation. Bread hunger weakens a people and in the end means revolution, says Alex McLean in Denver Field and Farm. Money hunger is simply another name for greed and in the words of the old proverb, "greed always kills"—kills family life, kills patriotism, kills representative government and democracy and in the end will kill freedom. Land hunger gives permanence to the home and stability to our institutions. By land hunger I do not mean the motive that drives men to land grabbing or land speculation, or investment in land. That motive may be and frequently is simply another form of money hunger and may be as dangerous and destructive when carried to excess as any form of greed.

I mean by land hunger that deep and passionate instinct to possess and own and cultivate and keep the land from which we draw food and the means of life. I mean the national and individual instinct that regards land as the most durable, the most desirable, the most fundamental of all the forms of wealth and places agriculture first in the honor roll of the industries. For examples of land hunger that lead to the proper appreciation of the value of land turn to the leading countries of Europe from which this country drew its early immigrants. The aristocracy of England is one of the narrowest, most exclusive, rigid, unyielding, conservative and perhaps the most stupid aristocracy in the world, but it knew the value of land, seized the land and held it with a firm grip. By the institution of entail they prevented alienation and secured it as a family possession forever.

We are lacking in true courage when for fear of the future we take the crusts and scraps of niggardly salaries of the present. I had a thousand times rather have a farm and be independent than to be president of the United States without independence.—Ingersoll.

KEEP YOUR HORSES IN THE FIELD - NOT ON THE ROAD



It frequently happens that feed-crops must be harvested just when fruit must be hauled to transportation stations. Both cannot be done at once, with one team. Either the fruit crop or some other crop must suffer from neglect.

Another thing: Field horses are often ruined by road work. Keep your horses in the field. Invest in an

International Auto Wagon

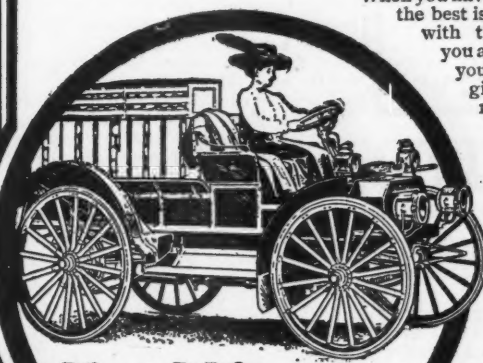
You will be able to go three times as fast, making three trips in the same time in which you formerly made one, catching early trains or boats. Your quick-spoiling fruit won't be delayed between orchard and market.

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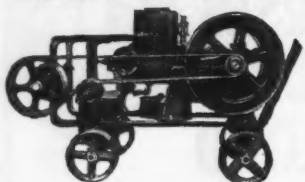
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Raw Oysters a Source of Typhoid Fever.

Among the pathogenic bacteria that are met with in sewage from any municipality, the typhoid bacilli are by far the most common and unfortunately also the most dangerous.

The human excreta, both liquid and solid, contain millions of typhoid bacilli which find their way through the sewage into rivers and lakes used as sources of water supply.

It is a common but deplorable fact that sewage from cities on the Atlantic coast, from where most oysters come, is used as a supply of food for the oyster. The oyster farms as a rule are placed directly below and in the immediate neighborhood of the sewage outlet. The solid excrement from the sewage is utilized as food for the oysters.

When we consider then the viability of the typhoid germ in the human excreta, and the utilization of the latter by oysters as food, we should see at once the grave

In the relief of rheumatism, rest in bed is imperative. The parts may be wrapped in soft, medicated cotton to relieve the pain.

Hot poultices relieve the muscular attacks to a large extent.

Internal remedies, while of some value, attacks to a large extent.

Internal remedies, while of some value, should not be used, except on the advice of the doctor, as errors, very grave to their nature, may occur.

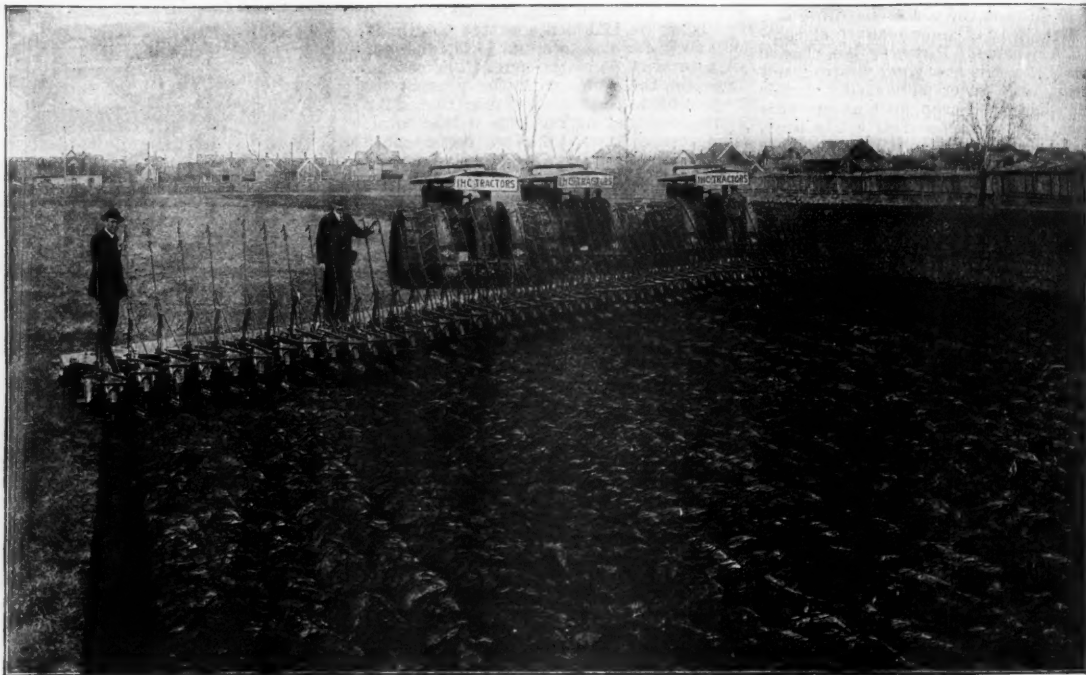
A diet of milk is found effective in assisting the relief of the attacks, and lemonade is a beneficial drink. The greatest and most rapid good can be gained by following the doctor's advice carefully.

Erysipelas.

This disease is also known as St. Anthony's fire. It is an inflammation of the skin and of the tissues under the skin, attended by a fiery red color and a great swelling of the parts affected. It may affect some of the interior tissues of the body, although it is confined mostly to the face and head.

Erysipelas is apt to be attended by fever, and it is not uncommon to find associated with it delirium and meningitis.

Severe cases of erysipelas are quite dangerous and may be followed by diseases of the bones or inflammation of the internal organs.



THE PLOW IN THE PROCESSION OF THE AGES

This outfit plowed fifty-five furrows, 14 inches wide, or 64.16 feet. On the spur of the moment, one would think this great outfit would be unwieldy, but the truth is that corners were turned and the plows thrown out and in the ground with no more difficulty than is experienced in operating the ordinary traction plowing outfit. One or more sections of the plows could be detached in a moment, and the outfit could move forward without readjusting the hitch. The long gang was made up by connecting eleven sections, each section having five plows, and the sections were hitched together in a way that permitted the plows to follow the contour of the field easily and with an evenness in depth that was as surprising as it was uniform. One prominent citizen, who met the Moguls half way down the field, hailed us with the terse interrogative—"Are you going to plow the whole township at one lick?"

Perhaps you wonder how the engines could be successfully hitched to such a long gang of plows—but it's all very simple—after you know how. The hitch works on the principle of the block and tackle. Six pulleys are connected with the platform behind which the plows are attached. The hitch on each of the three engines consists of two pulleys. A chain is passed around these pulleys and fastened to each end of the platform. It will thus be seen that this hitch prevents any one of the engines taking more load than another, and also insures the flexibility required to turn the corners.

Who can say how much this great lesson means to agriculture and to the progress of civilization? Plowing is not so much the peak load of agriculture as it is the foundation upon which rests the whole super-structure of agricultural production. Good plowing and good tillage—and there can be no good tillage without good plowing—largely determine the yield of our cereal crops—and therefore fix the price of bread. The high or low cost of living is largely determined by the manner in which our fields are plowed. Think of plowing an acre in less than four minutes, or more than fifteen acres an hour—150 acres a day! It may not be far out of the way to call this plowing outfit the realization of the dream of "The Man with the Hoe." The McCormicks, Deering's and the Olivers made this dream come true, and to them belongs the wreath of laurel, for they have lessened the cost of bread.

danger we encounter by eating the oysters in an uncooked condition.

The typhoid bacillus does not form spores and is therefore killed by boiling. The heat necessary to make a stew is sufficient to destroy all the non-spore-forming bacteria, both pathogenic and non-pathogenic, that may be harbored in the intestinal tract of the oyster, says Karl J. Theige, Assistant Bacteriologist, Idaho Experiment Station.

Rheumatism.

Rheumatism is a disease of moist and temperate climates. The cause is not well established in the minds of medical men. Some believe that it is the result of imperfect digestion, in a way, and others incline to the belief that it follows certain nervous disturbances.

This much is known: That the exciting cause of rheumatism is exposure to cold or wet, or to a chill such as would result from sitting in a draught.

There are two kinds of rheumatism—articular, affecting only the joints, and muscular, affecting the muscles. Of the two, the articular form is far more perilous.

In the case of muscular rheumatism, the greatest ill lies in the suffering experienced from movements of the body.

In the articular form severe complications, including those of the heart, may follow and become an attendant part of the disease.

Many deaths from erysipelas occur as the result of this internal inflammation.

Erysipelas is frequently epidemic in surgical hospitals, and especially on the field of battle. It is dangerously infectious.

The treatment is supportive. That is, the patient is given iron, strychnine and quinine to support his strength. He is fed on an easily digested diet, consisting principally of milk. Erysipelas is caused by a germ.

Nutrients of Food.

Protein, starch, fat, sugar and fiber are the nutrients that make up foods. Protein is the only one from which muscle and tissue can be made—the others serve to produce heat, energy and fat. Starch and sugar are equal in food value. The fiber in the plant cut green has the same food value as starch; when the plant is mature, the fiber becomes largely indigestible as in straw. Fat serves the same purpose in the animal body as starch; it is more concentrated, having two and one-fourth times as much nutrient in a given weight.

Benefits from Grape Juice.

Grape juice is a liquid very rich in sugar. The most immediate and most evident effects of the grape "cure" is a diuretic one, no doubt chiefly owing to the large quantity of water the grapes contain. But it is also noted that there

is a diminution in the degree of acidity of the urine, a laxative action, a diminution of uric acid and of the intestinal fermentations, an enhanced activity of the hepatic function, especially of the biliary secretion.

By this may be seen, says Dr. Tailien of Paris in his communication to the recent Congress of Physiotherapy, all the benefits which can be derived from the grape "cures" in certain, morbid conditions. It must be stated, in addition that the effect varies with the modification which may be made in the dietary. In combining the grape "cure" with an alimentary regimen one may vary the weight of the body at will, making it increase or diminish. An augmentation of the weight of the body and an improvement of the general nutrition may be obtained by giving with an average quantity of grapes or of grape juice a dietary rich in fatty substances. The weight, on the contrary, may be decreased by prescribing a dietary of whole grapes.

The Modern Dairy.

Milk, cream, butter, cheese, all are very susceptible to contamination. They must be handled with the greatest care to prevent their spoiling. They are easily infected with dangerous germs and the slightest fault robs them of their market value. The first step in purifying our milk supply was the cleansing of

the foul and dirty stables and the banishing of hand milking. The stables were soon made modern and up to date and strict laws keep them so. The milking machine came and was pronounced a practical success, removing one of the greatest drudgeries of the farm and making it quite impossible for the milk to become infected during the milking process. This machine will milk four cows at the same time and far quicker than one could be milked by hand. It operates on the suction principle, which is the natural way, and the necessary vacuum is produced by a small motor operating a vacuum pump.

Up in the Stockbridge hills is a farm on which the owner has harvested this year 540 bushels of White Mountain oats from six acres of land, or ninety bushels an acre by actual measure. The seed, two bushels and three pecks, was sown two days before the full moon in May.—Baldwinsville Gazette.

Overlooked Him—Two lawyers before a probate judge recently got into a wrangle. At last one of the disputants, losing control over his emotions, exclaimed to his opponent:

"Sir, you are, I think, the biggest ass that I ever had the misfortune to set eyes upon."

"Order! Order!" said the judge gravely. "You seem to forget that I am in the room."—Western Christian Advocate.

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Apple Growing as a Business.

Before engaging in any business a business man will look around for the best location, whether he intends to engage in merchandizing, banking or what not. So it should be in the orchard business. The first thing to be considered is the location. In order to arrive at the proper conclusion we should compare the various apple growing sections. I believe we should study everything by comparison. Now if we should think for a minute of the geography of fruit growing we should recall three zones, which are marked by the classes of fruit adapted to them, namely, the apple, the orange and the coconut, says S. W. Moore, Mason Co., W. Va. in Pennsylvania Farmer.

WHERE ARE THE APPLE ZONES?

Taking up the apple zone we shall find it divided into great sections or belts—yes, belts, why not apple belts as well as corn and wheat belts? The principal ones are: 1. The Lake Ontario section, which comprises northwestern New York, adjacent parts of Ontario, northern Ohio and southeastern Michigan. To this section belongs such varieties as Baldwin, Greening, Spy, King and Roxbury Russet. 2. The Mississippi Valley section, which comprises central and southern Ohio, Indiana, Kentucky, Kansas, Arkansas and Illinois, is marked by the Ben Davis as the characteristic variety while the Jonathan, Grimes, York, Willow, Rome Beauty and many others are grown extensively. 3. The Allegheny section comprises the slopes of the Allegheny Mountains, Pennsylvania, Western Maryland, West Virginia, western Virginia, eastern Tennessee and western North Carolina. The characteristic variety is York Imperial, but it is probable that a greater number of varieties succeed in this section than in any other. Among them Ben Davis, Mammoth Black Twig, Winesap, Rome Beauty and Grimes. 4. The Nova Scotia section produces the same varieties as the Ontario section. 5. The Pacific Coast section—of which we hear so much nowadays—comprises Washington, Oregon, California and Colorado. The varieties cover a wide range, some of the most generally grown are Spitzenburg, Jonathan, Newton the Winesaps and the Bellflower. These five sections produce the bulk of the apples of the United States.

So if we are going to engage in apple growing as a business we should study these sections before deciding where to locate. What are some of the things to be taken into consideration in choosing a location for any business? First, I should say personal likes and dislikes, for I firmly believe that in order to succeed in any business a man must have a liking, yes, a love, for the work, in which he is engaged. So we should locate in the apple belt which will be most congenial to us. There are many things that it might be well to consider. I believe varieties are chief, for it would be next to impossible for a man to succeed in growing apples of varieties that he does not like and take pride in.

THE AMOUNT OF MONEY NECESSARY.

After having settled this point, the next to consider should be the amount of money necessary to start the business in one section as compared with other sections, taking into consideration the possible returns in a given time. Years of study, observation and some experience have convinced me that there is no part of the country that offers greater inducements to the fruit growers than the rough or mountain sections of the East, notwithstanding all that has been said and written of the far West. The rough lands have some disadvantages, such as laborious preparation. If it is new land it must be cleared, or if old fields, will have to be built up with commercial fertilizers and cover crops, as the steep land will not admit of hauling manure economically. Then the care and cultivation will be more tedious as machinery can not be used to advantage. These are some of the disadvantages, but on comparison we shall find that there are many advantages which so far out-weigh the disadvantages that they are lost sight of. Some of the advantages are: Cheap land; for upon comparison we find lands in the West, of which we hear so much, worth from \$100 to \$300 per acre, while in the East much of it may be bought for from \$7 to \$20. Another advantage is nearness to the great markets, the difference in freight on a car of fruit from the West to New York City from that on a car from this section would add a good profit to the eastern grower.

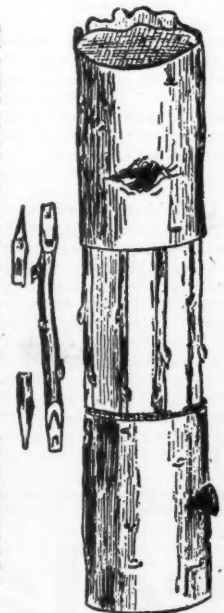
Home markets should not be overlooked, for the section which we have under consideration has a population of miners, manufacturers and others, who are not and never will be producers, but are great consumers at liberal prices and are willing and glad to use the second-class fruit. This market is steadily increasing, while in the West there is no place for this grade, and the long expensive haul bars it from the markets of the East. Another advantage that should not be lost sight of is drainage, of water, as well as air and frost. A great deal might

be said of the latter, but we shall pass it, by saying this is often too lightly considered. The slopes of our hills offer another great advantage as well as our varied altitude which enables us to prolong the season of the same varieties of fruit in the same section. There may be a greater number of trees grown per acre upon steep than on level land, as on the steep land the trees are terraced almost one row above the other. The manner of the preparation of the site for setting as well as laying off the land will of necessity be different on rough and level land. On flat land, such as might be found in Illinois, one might do well to set in furrows. While on steep land the water would collect in these furrows and wherever it would break over it would make a gully; and we all recognize the importance of protecting our land from washing. So on rough land I think it is best to dig holes, rather than mark out with plow.

The importance of pruning is to be insisted upon on steep hills, especially in the matter of height of head. I have found low heads to be almost a necessity as a protection against wind; then to insure economy in spraying, because it may be done cheaper and easier, as well as more effectively; the low head also lessens the windfalls and the ones we have are more marketable. Picking is much more economically done, and there is less injury by ladders. Last, but by no

BRIDGE GRAFTING

—Badly girdled trees usually die. When the part girdled is small and is covered before the wood dies out with grafting wax or other substance, which will protect the inner tissues, the tree may be saved. If the girdled part extends around the tree, it will be necessary to establish some connection between the cambium above and below the injury. This may be done by bridge-grafting. For this purpose use long scions cut to a bevel on each end. Insert one end above and the other end below the girdle, making sure that the cut surfaces are in contact with the cambium layer. A sufficient number of these scions should be put in to convey the cambium from the top to the roots and all cut surfaces exposed should be covered with wax. —Ont. Exp. Sta.



means least, I prefer a low head so that the trees may be mulched by its own limbs. COMPACTING DIFFERENT APPLE SECTIONS.

We have been comparing the different apple sections and have noted the difference in their location, varieties grown and many other things. Now I wish to say that as varied as they may be in soil, contour, climate, etc., there is a greater reason for the vast difference in the appearance of their fruit and the amount of money received per acre for the same, and in order that we may make orcharding as a business pay the profit it should, this great difference must be overcome and this is within our power. I have reference to more thorough and careful work all along the line. We are apt to spread our efforts over too great a territory, rather than to concentrate on fewer acres with the view of making our product reach the highest possible standard. Some of our orchardists have demonstrated this during the past season, where 10 to 12 acres have brought in astonishing returns, while the 150 to 200-acre orchard in the same section gave but a small percent on the investment.

I believe the success of the orchard business in the future depends, and will be measured more by the quality than the quantity of fruit produced. So we must be more thorough in all the details from the choosing of the site, the selection of varieties and all the long list until we come to the market with a better package, filled with better fruit.

Pomelos, or Grape Fruit.

Not a very encouraging beginning. However, it gradually increased in favor; it became fashionable to use it, it was recommended by physicians and in a comparatively short time its place in the market was firmly established. Besides being of food value the fruit is distinguished for its medicinal qualities. When eaten with sugar it makes a fine dessert and is winning favor as a breakfast fruit, owing to its mingled flavor of sugar and acid and because it is an excellent tonic. It is itself a food, a complete nutriment for the body, a great aid to digestion, and of the utmost value in helping the body to eliminate waste matter.

Frosted Oranges.

A frosted orange has little juice and is practically worthless for eating, but upon the tree or in the box it looks precisely like the best of fruit and there is no way of separating the frosted from the other fruit except by the weight. This is done as much as possible both in picking and packing whenever there has been a frost to arouse suspicion, but the surest way to eliminate frosted oranges is to pour them into a tank of water. The water makes no mistake and an orange

which sticks up way above its fellows or bobs about like a cork when tapped with the finger is at once removed. Says California Fruit Grower. That is easy because in some years and in some places it is necessary to wash oranges to remove smut. Washing is not considered very good for oranges, but washed oranges that are clean and juicy sell better than those which are smutty and light.

Truth may win in the long run, but a lie is more of a sprinter.

Labor-Saving Methods—In Your "Fruit Factory" and in Our Pump Factory

Every up-to-date business man nowadays—fruit-grower and manufacturer alike—is studying how to make every dollar he spends show a better return.

Your business, as a grower, is to have spraying outfits that will do your work thoroughly and easily, without breakdown or waste. Our business is to make such outfits—and in

Deming Spray Pumps

we offer you the product of a factory where commonsense, labor-saving methods are put to work to make you a better pump than you can get anywhere else. We have been making Deming Spray Pumps for nearly twenty years, and have made a big success with them because we have lived close to fruit growers and their needs—found what they require, and supplied really practical machines.

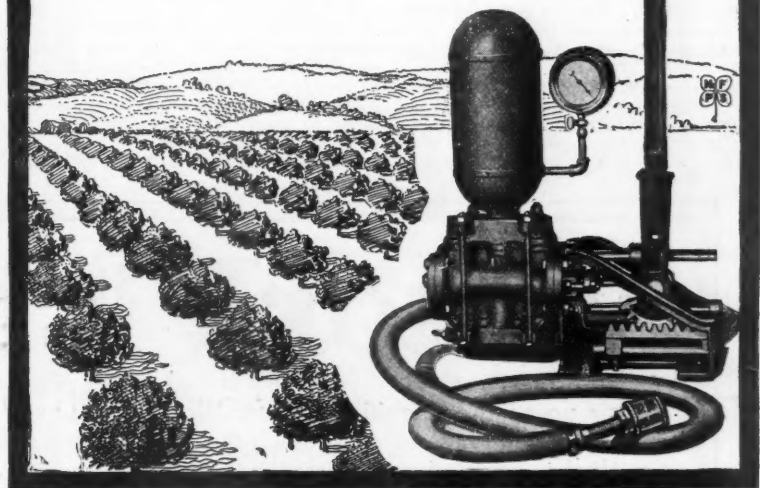
Write for Our Fine Catalogue NOW

We make nearly two dozen sprayers for all uses—gasoline engine outfits for large orchards, big hand-power and traction machines for medium-sized ones, bucket and knapsack outfits for gardens. Complete particulars in our new Catalog—free on request.

Deming Spray Pumps are handled through our Agencies in principal cities, and by hardware and implement stores almost everywhere. Consult your dealer; insist upon getting DEMING Sprayers. If he refuses, we will supply you direct at factory prices.

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Manufacturers of Pumps for All Uses
340 Success Bldg., - Salem, Ohio



Plant a Privet Hedge

It will give your place a finished appearance and add value as well as beauty to your home. I am making this very low special price to my customers and their friends for immediate orders.

For 9 Cents per Yard

I will sell you enough California Privet plants (two-year heavily rooted stock) to go around your place, planted six inches apart, packed and delivered to Railroad Station at Salisbury, Md.

Only 9 Cents per Yard, and No Charge for Packing

If you order \$5.00 worth or more of Privet at above rate and mention Green's Fruit Grower, I will add free of charge

- 2 Spiraea Van Houttei
- 2 Weigela
- 2 Mock Orange

Order today; this stock should be planted early.

W. F. ALLEN

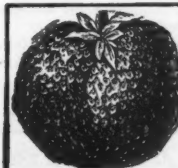
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If you want to find a ready market for your apples and at a much better price, pack them in standard bushel BOXES. They cost no more than barrels if you buy them from us. Now is the time to make your arrangements. Our mill capacity this year 500 cars. We ship all over the United States.

Write at once for size and price delivered your station.

39th & Pacific Sts. **L. J. NELSON & COMPANY,** Omaha, Nebr.



Fall Bearing Strawberries

These Berries are truly wonderful. They bear fruit every fall as well as spring, three crops in two years. They have yielded as high as 10,000 qts. to acre in Aug., Sept. and Oct. of first year, with us. We cannot get enough fruit to supply the demand at 25c per qt. wholesale. I know of nothing in the fruit line quite so profitable. We are also headquarters for Plum, Idaho and Royal Purple Raspberries, Early Ozark Strawberry, Watt Blackberry, Hastings Potato. Catalogue of all kinds of Berry Plants free. Address **L. J. FARMER, Box 207, Pulaski, N. Y.**

Aunt Hanna's Replies

Dear Aunt Hannah:—I have been an interested reader of your columns for many months, but have never before appealed to you for advice. I am a young man of 23 summers and look much older, owing to the business-like scowl that is possessed by yours truly. I am a young man of excellent habits; a great lover of books, and fond of nature. Am also quite an athlete.

But to get back to my story and deal on this love subject, I will begin by telling you that I am, and have long since been a victim of a love affair of a serious nature.

The girl in question is as near as I can tell about three years my junior, I have known her for about five years. It was a question of love at first sight as far as I was concerned, but in return, received no encouragement. However, I have always had patience to watch and wait, for I knew that she received the attentions of no one else.

I now believe that I am to be rewarded, for excellent reasons. A short time ago I visited her at her home, and to my surprise and delight was treated in a most cordial way; not only by her, but by every member of the family. However, I was not asked to return and did not have the nerve to ask her if I should, so I departed with just a "good-night."

With these departing words I sprang into my rig and was off on my three mile journey homeward trying all the while to swallow the huge lump that had collected in my throat, but in vain.

Now what I want to ask of you is this: Should I, or should I not go to her and make everything clear. I would have done this long ago, but was afraid.

In any case I want you to be perfectly frank with me, and say what you think, not what you wish, or what you think would be a pleasing answer.

Nevertheless, I hope to get a favorable and reasonable answer through our most valuable paper.—Student.

Aunt Hannah's Reply: Of all finical, unreasonable, super-sensitive creatures the young lover is the most exasperating. Love is said to be a disease. It is truly a distemper that affects both the mind

and body of all attacked, so that nothing but strange actions or impulses are to be expected from those who suffer from this disease.

This young lover is thrown into an agony of suspense simply because he was not invited to call again.

No, the simple formality of asking a guest to call again, who has been in the habit of calling at regular or irregular intervals, amounts to but little one way or the other. This young man should pay far greater attention to the manner of his reception in the home of the young lady, and to her manner toward him, than to the formality of asking him to call again, which was wholly unnecessary and should not have been considered at all by the young man.

I am asked whether the young man should call again after having been cordially received, but not having been invited especially to call again. My answer is: Why of course call again under such favorable circumstances, and do not worry over the affair in the least or pay any attention to the fact that you were not invited to call again.

Young men should not expect that the girl of their choice will drop into their mouths like a ripe cherry on short acquaintance. A girl worth winning is worth waiting for, not only months but years of waiting if necessary. Do not be too hasty in proposing to the girl. The period before marriage is proposed is a very happy one although filled with some uncertainties. Make the most of the early days of courtship and in this way get better acquainted with the girl and allow her to get better acquainted with yourself.

Dear Aunt Hannah:—When I was a young girl I had lots of beaux and some of them were nice, very nice. But I turned them all down and one by one they dropped off, except one who courted me pretty brisk for about three months and I didn't give him any encouragement so he stopped telling me of his love.

But he kept coming once in awhile and giving me little presents on my birthday and Christmas. Now he comes twice or three times to the month but says nothing of love. He has been kind to me and I appreciate his attentions. I believe I am his choice. What must I do? I am now getting grey and if I am ever going to marry why not now? Wishing to read your reply soon.

He is a member of the church and stands

high in his church and Sunday school.—Ruby.

Aunt Hannah's Reply: It looks to me as though you had gone through a big piece of woodland without finding a straight stick. That is you evidently have not met the person who some would call your affinity, until you met the recent lover. Very likely you have expected too much of the young men who have been paying you attention in years past. We must not hope for perfection in any human being since none of us are ourselves perfect. If you can find a few primary elements of good character and agreeable temperament in an individual you should be thankful and inclined to tie to him. Industry and economy are necessary accomplishments in a young man which girls are not inclined to consider important. With most girls a fine form and a good looking face in connection with good nature and cheerfulness in a man counts for more than other qualifications which are a thousand times more important for the young girl to consider in choosing a husband. Even the matter of a young man's dress may attract the young woman to the man who has those good clothes more than sterling qualities of character. If the young man is cute and witty, and a ready talker, he may be more successful in winning a wife than the man who has the inventive ability of an Edison, or the financial ability of a Rothschild or J. Pierpont Morgan; the artistic ability of a Michael Angelo or a Rubens, or the musical ability of a Mendelssohn or a Chopin. When we consider the frivolous qualities which lend attraction to the male sex in the girl's eyes we cannot wonder that there are some unhappy marriages. But I believe that unhappy marriages are the exception. So far as I can learn from observation there are a thousand happy marriages to one unhappy one.

Dear Aunt Hannah:—I love to read your replies. I go with several girls and am over twenty-five years old. There is only one that I am willing to marry. I love her and she knows it, for I have told her. She treats me nice but she seems nicer to other boys when they are around or at her home. She has never given me any words that would make me believe that she loves me. When I ask her to go driving, to preaching, prayer meeting or a show with me, she always seems glad to go if she can and sorry if she can't. It is harder for me to keep up a conversation

with her than other girls though I have the utmost confidence in her and have never known her to betray my confidence. Would you advise me to propose or not. She is twenty-three and I have loved her for several years. I have been a subscriber for sometime.—Harry, N. C.

Aunt Hannah's Reply: My advice to that you propose marriage without delay. There is no greater compliment a worthy man can pay any girl than to propose to make her his wife, the head of his home. How could any act be more complimentary than to tell a girl that you hold her in higher esteem than any other in the world. These words should give you courage to go ahead. It is difficult for me to understand why men should be so diffident and so inclined to delay proposing marriage to the girls they love. Probably one reason for hesitating is the fear of being repulsed. That is they desire to wait until they are more certain that the prize can be won. I would not advise too great haste but I am very much opposed to long delays. In your case I should judge that the girl makes herself particularly agreeable to other young men in your presence as a matter of girlish coquetry.

Aunt Hannah's Cure for Love.

Take twelve ounces of Dislike, one pound of Resolution, two grains of Common Sense, two ounces of Experience, one large sprig of time and three quarts of cooling water of Consideration.

Set these over the gentle fire of Love sweeten with the sugar of Forgetfulness, skim it with the spoon of Melancholy, put it in the bottom of your heart, cork it with the cork of a Clear Conscience, let it remain and you will quickly find ease and be restored to your senses again.

These things can be had at the Apothecary at the Home of Understanding, next door to Reason, on Prudent street, in the Village of Contentment.

Musings of the Gentle Cynic.

All things are possible, except some people.

"Better late than never" is a poor rule to follow in making mistakes.

The greatest labor-saving device is the political machine. It saves many a man from working.

Old age is the evening of life. Second childhood is the morning after.

The man who is left doesn't take much consolation from the fact that his conscience tells him he is right.

The secret of youth from a feminine point of view, is to look younger than you are and act younger than you look.

The only people who have more friends than they need are the people who don't need them.

The Editor doesn't always agree with the post office authorities as to what constitutes first-class matter.

There isn't any thing much more tame than a social lion.

How can a man help feeling restless when even his bills are unsettled?

Some men never succeed because they are always afraid of doing more than their share.

All the world's a stage, but most of the actors are amateurs.

By their deeds ye shall know them—the people who get caught with the goods.

The linguist may be able to master all the modern tongues except his wife's.

No girl should try to sit on a fellow who has the reputation of being weak-kneed.

Lots of people who marry for money are investing in gold bricks.

A woman can't always conceal her age by covering it with a coat of paint.—New York Times.

Only 60 cents per Quart Now.—Strawberries in Boston are now down to 60 cents a box. Pretty soon that philanthropic restaurant will be offering ripe, rich, red strawberry shortcake to the hungry again at 20 cents a throw.—Boston Globe.

Green's Nurseries are making things move these days. We noted fourteen horses and eleven men on one machine digging trees the other day, and on another day eight teams drawing as many loads of trees in Caledonia.—Caledonia Era, Nov. 4, 1911.

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With the Victor-Victrola IV at \$15 and others gradually ranging up to the magnificent Victor-Victrola XVI at \$200, why should you longer deny yourself the pleasure that comes from their possession?

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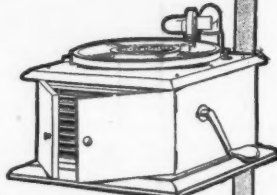
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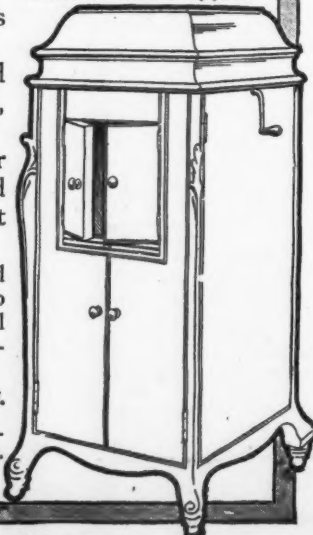


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New Victor Records are on sale at all dealers on the 28th of each month

McIntosh Apples.

Were I the originator of this apple I would have reason to be a proud man. I would have full justification for realizing that pleasurable sensation attendant upon the performance of a really worthy deed, says Prof. John Craig in Garden Magazine. Railroad kings and captains of industry may come and go. They are soon forgotten, their deeds pass away, but Allen McIntosh, the discoverer and introducer of the apple of his name and of unsurpassed excellence, will as the generations come and go be rightly regarded as one of the people's benefactors.

While there is no circumstantial evidence to prove that McIntosh is derived from Fameuse stock its likeness to that variety, and its general characteristics are so unmistakable as to remove all reasonable doubt from the question. In "The Apples of New York," that notable publication of the New York State Experiment Station, McIntosh is deemed worthy of a colored plate, but the lithograph is not a happy production. Neither color or typical form are faithfully rendered. When this variety is grown on clay soil it is often slightly ribbed towards the cavity, but the normal McIntosh is not ribbed. It is of medium size, averaging somewhat larger than Fameuse, regularly and unusually roundish in outline. The skin is thin and tough. The color of northern grown specimens shades from a livid or bright red to deep purplish red, almost black, overspread with a delicate lilac bloom. Who sinks his teeth into a well grown McIntosh in prime condition, if possessed of a reasonably discriminating taste, cannot fail to carry away a cherished remembrance. I have tried many people and rarely failed in securing an enthusiastic response. Its white flesh, flaky and melting, pleasantly sub-acid, and highly aromatic, represents a gift of the Gods, indeed.

Technically the Gravenstein apple is rather large, a little flattened, a trifle one-sided and broad at the base; stalk rather short and well set; calyx large; skin from pale to deep yellow, surmounted with a reddish and irregular bluish varying more or less according to the season; flesh crisp and tender, and it has an aromatic flavor at once pleasing and palatable; tree a strong grower and regular bearer. These strong characteristics have placed it in the lead in Sonoma county, where it finds ideal conditions for its highest development.

Clapp's Favorite Pear.

There are other good pears to be had as well as the Clapp's Favorite, it is true, but there is so much merit attached to this one that it needs no excuse to refer to it again, says Jos. Meehan in Practical Farmer. A neighbor has two trees of this variety in his garden, which he is proud of, and no one blames him who sees the trees full of their beautiful fruit, more especially those who taste them. There is no other August ripening pear of the size, beauty and good flavor of it, nor one that can be relied on for a good crop of fruit yearly. It has a fault, and this is that it is a poor shipper, because of being a poor keeper. One must look on it as a pear for immediate use, for as soon as it is fully ripe, if not used at once, it commences to decay. In length this pear is of 3 to 3½ inches on an average, of a true pear shape, its sunny side always of a bright crimson color on a deep green ground, making it one of the prettiest colored pears to be seen at any season of the year. The flavor is juicy and excellent, and how I wish it could be said of it that it was a good keeper, but it is not, rotting at the core very soon after it reaches maturity. I once had this tree in my collection, but had to cut it out on account of some improvement made. I had them always in a satisfactory condition by gathering them in the first week in August and placing them away in a close closet. In from ten days to two weeks they were in prime condition, no rotting at the core at all, and were good for use for a week or more. They last much better when picked before quite ripe, decay not commencing so soon as it would if on the tree at the same date. My neighbor mentioned had overlooked the caution given him to pick them beforehand, so that when quite ripe on the tree he had not the good fruit he would have had had he remembered advice given to him the year before. With a market close at hand I would not fear to grow this pear for it. Its color, large size and quality would sell every fruit, but on the whole it must not be included among varieties especially for market, but let everyone set out a tree of it for home use; it will not disappoint them.

Cherry Growing.

By Daniel Lowmiller, Parkville, before the Missouri State Board of Horticulture's District Meeting. First is the location. Cherries should be planted on high, rolling, well-drained

soil, for they will not thrive on wet, soggy land. A rich loam, interspersed with sand, is the ideal soil, as it warms up early in the spring and gives life and vigor to the trees.

I have an orchard of one hundred and seventy-five trees, planted four years ago this coming spring; they are planted in such a location as I have just described. The trees have made an exceedingly heavy growth. They have a circumference of 10 to 12 inches. Before planting this orchard I hauled some 30 odd loads of manure and cultivated two years before planting the trees. It is the most beautiful cherry orchard I ever saw, large well-rounded tops of uniform size, and not a tree missing. I picked the first crop this year, which was light because of late frost. My orchard is composed of one-half Early Richmond and the remainder Montmorency.

What is more beautiful than a cherry tree with its green leaves and its luscious red fruit? In my way of thinking, there is no other fruit so pleasing to the eye or tempting to the palate, unless it is more cherries. Well do I remember the Heart cherries on my grandfather's farm in Ohio, away back in the sixties! In those days trees were planted around over the farm promiscuously in out-of-the-way places and fence corners, where they could not interfere with farming, as fruit was simply a side issue in those days there being little or no market excepting for home consumption. The trees grew very large, some as much as two feet in diameter and fifty feet tall. The fruit was as large as Shropshire plums. They often gathered from twenty to twenty-five bushels from a tree saying nothing about what the birds got.

The cherry is a tree which is easily grown; it is bothered less with insects than any other fruits, and rabbits seldom molest them. In preparing the soil, I should advise heavy manuring, deep plowing, with thorough cultivating the year before planting. Use two year old trees, well branched, and plant eighteen feet apart, giving cultivation for three years. After that seed to clover and when your orchard comes into bearing, mow all grass and weeds a couple of times during the season. Let it lie on the ground rot to form a mulch. It will have a tendency to hold moisture, and also helps to keep the ground loose. The less a cherry orchard is plowed after it comes into bearing, the better, as the feeding roots are very near the surface. Roots broken off are not quickly replaced, as the cherry is one of the most backward of fruit trees in putting out new growth where old growth has been broken off. This is as true of the root system as it is of the branches above ground. Sprouting or suckering from the roots frequently occurs, if cultivation is kept up. No fruit tree should be cultivated after mid summer, as it encourages a growth which does not ripen in time for going into winter.

Cherries require very little pruning. Close crowding or rubbing of limbs should not be allowed, and the center of the tree should be kept sufficiently open to admit sunlight and air. If the young tree is properly shaped during the first two or three years after it is planted only a little subsequent pruning will be needed each year.

The fourth year after a Cherry orchard is planted, it will begin to bear and by the time the orchard is ten to twelve years old, it is safe to say, we pick from three to four crates of cherries off each tree. For the next ten to twelve years, they are equal to a gold mine.

Points on Blackberries.

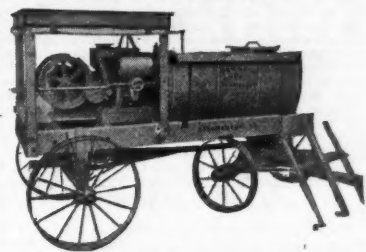
The main point with blackberries is soil. This, if possible, should be cool, loamy and rich; but never allow any application of barn manure. Fertilize with soil, rotted chip soil, or whatever will mulch and cool the soil. Our chief danger with blackberries is a dry spell when the berries are approaching maturity. Of the berries now in cultivation my choice for quality is Taylor and Agawam. Erie has not killed back this winter, as it some times does; but it is not with me a good cropper of fine berries. Snyder is always reliable, but of good quality. Kittatiny is a noble fruit, and I get a crop from a small field by bending down the canes. Wachusett's Thornless does not differ largely from Snyder's, and is entirely hardy. Few berries are badly affected by dry weather. On the whole, the key to success is cool, moist soil, not wet. If planted on high land, either mulching must be resorted to or frequent use of the cultivator. The Lucretia Dewberry is tender and must be laid down for winter and covered with leaves. In the spring I lift mine and tie to trellises. It will not pay to plant large fields. The demand for the dewberry is, however, unlimited, but few persons are willing to incur the labor of cultivating it. The fruit is enormously large, very rich, and two weeks earlier than the high blackberries. It will not ship to distant market.

Quince Culture.

The fruit of the quince is in such great demand in all large cities that it should stimulate farmers and fruit growers to greater efforts to succeed with the trees they set out. There are many more quince trees set out that do not thrive. This fact, however, should not deter others from the attempt to grow them, for though perhaps as an unpalatable statement to those that fail with them, there is no particular trouble in growing them. The most of the trees that are lost come to an end through the ravages of the borers. Now it is not very much of a task to look at the trees twice a year, and if borers are found to take them out.

Quinces do best in deep, cool soil, though in dryish places they will do fairly well if mulched. To have the roots cool is a great step towards success. If by themselves in rows they can be planted about twelve feet apart. There need be no fear of overfeeding the quince. They like lots of rich food. Kitchen washings and materials like this they delight to get, and when well fed in this way and rich food is spread about the surface of the ground the borer is not at all troublesome to them. When the quince is suited in this way, and grows as it should do, it begins to bear in three years, and afterwards it never fails of a crop, and seventy-five to one hundred quinces can be had from full-grown trees.

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No display advertising will be placed in this department and no type larger than 6-point. The first three words only to be printed in capital letters. Each abbreviation and number will count as one word. Rate 10 cents per word for each insertion. No advertisement inserted for less than \$1 per issue. We cannot afford to do any book-keeping at this rate. Cash must accompany every order. Orders must reach us not later than the 15th of the month previous to the month in which the advertisement is to appear.

TERMS: CASH WITH ORDER.

Green's Fruit Grower Co., Rochester, N. Y.

HELP WANTED

Sound men 20 to 40 years old wanted at once for Electric Railway Motormen and Conductors; \$60 to \$100 a month; no experience necessary; fine opportunity; no strike; write immediately for Application Blank. Address Mgr. Emp. Dept., 4-25 Dwight Bldg., Kansas City, Mo.

FARMERS' ATTENTION. We build a power sprayer equipped with Field 24 H.P. Engine, Duplex Brass Pump and complete equipment that we can sell at a very low price. We want a reliable representative in every Township. Write for particulars. RELIABLE MFG. CO., Ann Arbor, Mich.

FOR SALE

New Garden Seeds, 6 big packets 10 cents, booklet free. Norris Adams, Worcester, Mass.

EGGS—Light and Buff Brahmas. White, buff, Black Orpingtons. C. C. Arnold, Millers Falls, Mass.

Orpingtons—Black and White—Eggs \$3 per 15. Baby chicks. Catalogue free. Crescent Farm, Buffalo, N. Y.

NURSERY STOCK. Strawberry plants, seed potatoes. Illustrated catalog. Mayers Plant Nursery, Merrill, Mich.

LIMITED NUMBER FALL BEARING Strawberry plants, \$1.00 per dozen; \$5.00 per hundred, postpaid. W. Winters, Clancey, Mont.

EGGS FOR HATCHING—Bluem's single comb white leghorns; world's best; 16 years experience; circular free. Samuel S. Blum, Pottstown, Pa.

ORPINGTONS, WHITE, BUFF, BLACK. New York, Boston, Williamsport, winners. Eggs, chicks reasonable. Circular. Wm. C. Seidel, Washingtonville, Pa.

EGGS—\$1.00 per 15, \$2.00 per 40. Thoroughbred Brahmas, Rocks, Wyandottes, Reds, Leghorns, Hamburgs; 13 other varieties. Catalogue 29th year. S. K. Mohr, Box E, Coopersburg, Penn.

MILLIONS OF VEGETABLE PLANTS for sale. All kinds and varieties. Also Flowering and Decorating Plants in abundance. Write for prices. Alonzo Bryan, wholesale and retail florist, Washington, N.J.

CONGDON'S BARRED ROCKS, bred for utility and beauty; \$3,000 invested; 146 acre farm; 1000 birds for sale. Eggs in season. Write your wants. Booklet free. W. A. Congdon, Box 401, Waterman, Illinois.

FARMS WANTED

FARMS WANTED—We have direct buyers. Don't pay commissions. Write describing property, naming lowest price. We help buyers locate desirable property free. American Investment Association, 32 Palace Bldg., Minneapolis, Minn.

FARMS FOR SALE

CHANGE CLIMATE—Send for price list of garden tracts and farms. Home Real Estate Company, Longmont, Colorado.

TOBACCO VALLEY (MONT.) FARMS. No winds, blizzards, storms. Grow anything. Send for literature. H. C. Tripp, Eureka, Mont.

40 ACRES OF GOOD LAND—Good roads, farms, school near. In Chippewa County, Mich., \$400. Joseph Dunkley, Marquette, Mich.

TIDEWATER VIRGINIA—Northern colony, mild, healthy climate, small farms five or more acres, good schools, cheap transportation, near good markets, stamp for circular. Deverell & Co., Claremont, Va.

I BRING BUYERS AND SELLERS TOGETHER. If you want to buy or sell any kind of real estate or business, write me. Established 1851. Frank P. Cleveland, 2855 Adams Express Building, Chicago, Illinois.

MONEY-MAKING FARMS. Splendid assortment, size and price. Some must be sold at big sacrifice. Some with stock, crops and tools included. Descriptive catalogue free. Burris, Robinson Building, Elmira, N. Y.

MONEY-MAKING FARMS throughout 16 Eastern and Southern States, \$15 to \$50 an acre. Livestock and tools often included to settle estates quickly. Big Illustrated Catalog free. We pay buyers railroad fare. E. A. Strout Farm Agency, Station 1233, 47 West 34th St., New York City.

MISCELLANEOUS

SILVER SPANGLED HAMBURG—Excellent breeders for sale. Henry Alberding, North Judson, Ind.

APPLE ORCHARD WANTED—Must be good proposition; Western New York preferred. J. C. Hindman, Grove City, Pa.

GINSENG PLANTS, two years old, three dollars per hundred. Seeds, three dollars per thousand. John B. Hooker, Fly Creek, N. Y.

BAD DEBTS COLLECTED. By an Alderman. Established reputation. Prompt remittances. Bank references. George K. Willock, 133 Bausman St., Pittsburgh, Penna.

DAY OLD CHICKS FOR SALE. 17 varieties. Prompt shipment. Strong, natural hatched, thousands per week. Catalogue free. Old Honey Hatchery, Dept. G, New Washington, O.

COLD STORAGE

COLD STORAGE is the best way of keeping fruit—everybody knows that. A frost proof or common storage building is not cold storage. In a cold storage plant temperatures may be controlled by artificial means. Investigate the Cooper Brine System, using ice and salt for cooling. Greatly superior results over common storage and also over refrigerating machinery; low first cost; absolute safety against breakdown. Madison Cooper Co., 110 Court St., Calcium, N. Y.

PIGEONS FOR SALE

PIGEONS! PIGEONS! THOUSANDS OF THEM in all the leading varieties and at lowest prices. Testimonials from countless customers that are making money with our fast breeders. Large illustrated matter free. Providence Squab Co., Providence, R. I.

Cooperation is the Key that will Unlock the Door.

The orange growers of California about 1890 were up against a difficult situation. Their groves had come into bearing, but their real markets were in the East, says Lloyd S. Tenny, Hilton, N. Y., in Tribune Farmer. It is true that buyers and commission men went out and bought their fruit, but the prices were so low or the consignments gave such poor returns that after paying the charges for harvesting, packing and shipping, little, if anything, was left. It was not an uncommon thing even for the shippers to have to advance money to pay the freight. Probably many of the buyers and handlers were dishonest men, but even if they had not been it would not have been possible to handle their crops at satisfactory prices. There was poor distribution by this method. Probably the city of Rochester didn't have a buyer in California, and it is doubtful if any commission house here was receiving many carload shipments. The same was true of hundreds of places of this size and smaller. The same thing has been true in Florida in much more recent years. With thousands of buyers and solicitors in the state, and practically all of them from just a few large cities, it was impossible to get wide distribution. Let the price of oranges go up 25 cents a box in Philadelphia and a hundred cars might be shipped to that point the following day; with what success you can easily guess.

So about 1890 we find a common ground of need in California for a co-operative organization among the orange men. Prices were not satisfactory so there was formed at a little suburb of Riverside the Pachappa Fruit Association. The original idea was a compact among the growers to hold their fruit until all sold at one time. They found this was unsatisfactory so afterward they undertook their own shipping. The attempt was a failure. It failed largely because of one thing—namely, the association was not an incorporated body.

THE ASSOCIATION MUST BE AN INCORPORATED BODY.

After several unsuccessful attempts to unite the orange growers a mass meeting was held in March, 1893, at the village of Colton. Here was outlined a plan of a fully incorporated organization. It was the beginning of success. From this small beginning there has grown an organization with over five thousand members which distributes from \$10,000,000 to \$15,000,000 worth of fruit a year, and in five years has handled for the farmers of Southern California the immense sum of \$50,000,000, with a loss less than \$5,000 from uncollected debts—a record which probably cannot be equalled by the Standard Oil Company, the steel trust or any other organization handling that sum of money. We may well afford to take off our hats to such a bunch of fruit growers. Would that our fruit men located around Rochester might take notice of what has been accomplished there in California! How crude and amateurish our efforts in the way of marketing fruit appear in comparison!

While it is necessary to have an incorporated body, yet the capital stock must be put in on the non-profit or stated profit sharing basis. Let me be very clear and specific with regard to this point, for it is vital. Many organizations have failed because of disregard for this point. The capital stock for a local association, such as we would need at home, must come from the growers. If we needed \$5,000 and had one hundred growers, then each grower should take out \$50 of stock. Where it is not possible to have things come out so even as this illustrates, then there should be a regulation which will prohibit any one grower taking over a certain specified sum. No one man should or can predominate in the financial part of an organization. All should share as nearly as possible alike. No man should put money into capital stock expecting to get large returns. He should be satisfied with no returns at all. It is taken for granted that he is putting his money into the association, not to make large interest on his meagre investment, but to establish, or for the purpose of establishing, an organization which will market his fruit at satisfactory prices.

Orchard owners are awakening to the necessity of getting rid of the surplus wood in the trees and it does beat the dutch how this superfluity piles up here in our irrigated orchards. The new men who have come in and taken charge of the older orchards are cutting the trees back to a degree that would almost be impractical to inexperienced men. We have plenty of orchards which are now twenty or more years old and these trees certainly need dehorning. All of our trees are too thick. In the first place they are too close together in at least fifty per cent. of the older orchards. In some cases the rows are far enough apart but the trees stand too close in the row and in others they are too close both ways. But granting that the trees are far enough

apart there is entirely too much wood in them which should be thinned out. We must have sunshine on our apples if we expect to get fancy fruit.

APPLE PRICES IN SCOTLAND.

The Superiority of the Fruit Grown in Some of the States Recognized.

Scotland is not an apple growing country, owing to adverse climatic conditions. Neither in quantity nor quality is the domestic production a factor in the market the long established houses that dominate the trade, drawing practically the whole of their supplies from abroad, principally from the United States and Canada, says Consul Rufus Flemming, Edinburgh in Tribune Farmer. The apples handled by wholesale firms here are largely bought at the auction marts in Liverpool and Glasgow, but considerable quantities are purchased from foreign shippers through London brokers, including the American cases apples, such as California and Oregon Newtowns and Wenatchee Valley varieties. The total sales of apples in Edinburgh and its vicinity are roughly estimated by brokers and wholesalers at 60,000 barrels in an average year.

Generally speaking, better grading of Canadian apples has benefited Canadian shippers; but the United States has two distinct advantages in this trade; (1) Fresh apples are exported practically at all seasons, from one part of the country or another; (2) in quality and appearance, some American varieties grown in Michigan, California, Washington, Maine, New York, and other states of the East and West are superior to the best commercial grades produced elsewhere.

Probably the most successful method of building up the trade in high grade cases apples in this part of Scotland would be to deal directly with the principal local wholesale firms whose names appear in the World Trade Directory, published by the Bureau of Manufactures. Each of these firms is in a position to handle effectively any special line of fresh fruit.

I give below the wholesale prices— which average about 15 per cent. more than auction or brokers' prices—of all varieties of imported apples in the Edinburgh market on December 6, 1911:

APPLES	Net Weight	Market price.
American (in barrels)	Pounds.	
Ben Davis	112 to 130	\$2 55a3 16
Newtowns	120 to 126	3 16a 4 87
Baldwins	112 to 133	2 92a 4 38
Cranberry Pippins	112 to 126	3 16a 3 65
Rox Russets	120 to 126	2 43a 3 04
Golden Russets	112 to 126	2 92a 3 65
Seek-no-Further	120 to 133	2 92a 4 40
Spitzenburg	120 to 126	3 40a 3 89
Pride of the Hudson	126	3 65a 4 13
York Imperials	126 to 140	3 85a 5 35
Greenings	126 to 133	3 40a 4 13
Northern Spies	126	3 16a 4 13
Vandauvers	112 to 126	2 92a 3 40
Wagners	120 to 126	3 16a 4 38
Phoenix	126	2 92a 3 65

American (cased).		
California Newtowns, 4 tier	40	2 06a 2 19
California Newtowns, 5 tier	37	1 82
Oregon Newtowns, 4 tier	40	3 65a 3 89
Oregon Newtowns, 5 tier	37	3 89a 4 01
Wenatchee Valley apples:		
Winter Bananas	28	3 40
Rome Beauties	40	2 06a 2 19
Jonathans	36	2 19

Notice a barrel of Baldwin apples sold at \$2.55 to \$4.00, or sold whole box of 28 pounds of Banana apples at \$3.40.

Phenomena of Springtime is Due to Bacterial Action.

That the annual awakening of the earth and all living things on the approach of spring is really due to bacterial action is the theory of Professor Muntz, of the French Academy of Sciences, according to advises from Paris.

After researches extending over a period of years Professor Muntz asserts that the phenomena of springtime, as sung by poets from time immemorial, are the direct result of violent germ activity in the soil, due not to the increased warmth of the sun's rays, but to a law of periodicity inherent in the microbes themselves. This activity highly multiplies the nitrogen in the soil which in turn makes the seed germinate and vegetation grow.

Care of Fruit Trees.

The trimming of fruit-trees may be done any time from now on through the winter. The manner of pruning depends on the kind and the condition of the tree, but in general it is done with the view of removing all crossing or interfering branches, to the even balance of the tree, to keep the inside open to the light, which is necessary for the proper ripening of the fruit and its good color, those depending very much on the effects of the sunlight. Grafting is done from the time the buds are swelling to the full leaf; budding is done when the bark is loose in the summer and the young buds are fully grown. August is a good time for this work. Grafting wax is made of equal parts of beeswax and tallow, with sufficient linseed oil to make these soft enough to handle. The melted wax and tallow are mixed with the oil and when the whole is hard enough it is worked by the hands in warm water to make it tough and form it into sticks for use.

ORCHARD LANDS FOR SALE

ORCHARDS AND ORCHARD LAND in the best fruit sections of Maryland and Virginia. We offer propositions of genuine merit valued at from \$5,000 to \$150,000. H. W. Hillery & Co., 1729 Southern Bldg., Washington, D. C.

ORPINGTONS

ROSE AND SINGLE Comb Buff, Black and White Orpingtons, eggs and baby chicks at cut prices. Get my experience, forty years among poultry. Circular free.—Lewis C. Beatty Co., Box G, Washington, N. J.

PATENTS

PATENTS THAT PROTECT. Careful, honest work in every case. Patent your ideas, they may bring you wealth. 64-page book free. Fitzgerald & Co., 801 F St., Washington, D.C. Established 1878.



SIMPLEX SPRAYERS.
A New Patented Sprayer different from others. Only one keeping up a high pressure, liquid always agitated. No stopping to pump, done while you spray. Recommended by experiment stations. Once used always agitated. Easiest to operate, durable, saves time, labor and money; non-clog. For trees, potatoes, gardens, white-washing, painting, etc. Lowest prices. Send for Spraying Guide. **SIMPLEX MFG. CO.,** Box 962 St. Peter, Minn.



MONUMENTS
Our White Bronze will outlast the pyramids.
Moss-growth, chipping, cracking, crumbling and decay all common to marble and granite, are IMPOSSIBLE.
Save money: write NOW for FREE illustrations and prices. State approximate cost desired. We deliver everywhere. Special prices on winter orders.
GOOD AGENTS WANTED.
The MONUMENTAL BRONZE CO., 387 Howard Av., Bridgeport, Conn.

SEED
The best on earth. Buy direct from the growers. We sell our guaranteed seeds at about half what city seedsmen do. Some below regular wholesale prices. Illustrated catalogue of wonderful baggages and pks. Sweet Pea free.
E. W. MARTZ SEED CO., Grundy Center, Iowa.

Will you pay \$185 for a first class high power spray outfit mounted on truck and complete with all fittings?

Write to **W. H. G. GOIT, Oswego, N.Y.**

Wait and Try My 1 1/2 H. Dazzle Patch 1 1/2 P.
for 3 months FREE. Find out what M.W. Savage offers in perfect farm engines and astonishingly low prices. 5 year guarantee, \$3,000.00 backing. Prompt shipment. Direct factory price on every Dazzle Patch engine. Get the Savage book and offer at once.
Write a postal NOW!
M. W. Savage Factories, Inc., Dept. 612 Minneapolis, Minn. **\$27.25**

Practically all farmers are beginning to recognize the need of spraying and the greatly increased value it brings to crops. Exact information on spraying requirements ought to be most welcome.

Therefore, every farmer should add to his library such a complete booklet on spray pumps and equipment as the new one just published by The Goulds Manufacturing Company.

The most valuable portion of this book are the pages devoted to a spray calendar and instructions for making up spray solutions.

This catalog describes a line of equipment which will meet practically every condition that may be encountered, but the Goulds Manufacturing Company state they will gladly furnish any desired information on special equipment.

We suggest that every farmer send for a copy of this catalog and keep it for reference. Better drop a postal to the Goulds Manufacturing Company, 43 West Fall Street, Seneca Falls, N. Y., and get a copy of this really valuable booklet.

RIPPLEY'S
Compressed Air Sprayers
WILL SPRAY TREES 20 FT. HIGH.
Guaranteed the best Automatic Sprayer made. Safety valve, fine Vermorel mist nozzle, 4 ft. hose. Order direct from this adv. Catalogue free. 4 gal. all brass, \$7; 5 gal. all brass, \$8; 4 gal. galvanized steel, \$5; 5 gal. \$5.50. Extra hose 10c ft. 4 ft. spray rod 50c.
RIPPLEY MFG. CO.,
Box 56 Grafton, Ill.

Take Dollars From My Low Factory Price For Ten Minutes of Your Time—QUICK!

Hurry a postal to me. Get my magnificent offer before you buy any incubator. I am doing wonders to get my Improved

New Jewel Hatcher



Introduced. Splitting the price for 10 minutes of your time at home. Giving \$25.00 poultry course to insure your success. Big incubator book free. Sixty days' free trial. Record-breaking, high-grade Hatcher at lower price than you can secure a cheap, ordinary machine. Greatest offer of the age. Write me personally.
M. W. SAVAGE, Pres.
M. W. SAVAGE FACTORIES, Inc., Dept. 123 Minneapolis, Minn.

Cherries—Montmorency and Other Varieties.

Paper Read Before the Western N. Y. Horticultural Society, Jan. 24, 1912, By W. I. Smith, Hilton, N. Y.

Cherries can be grown profitably, as near as I can learn, in any section of the country where apples are grown with success. You find certain varieties doing well in climates of extreme warm and cold, North, East, South and the far West. Now the question arises, are we not liable to have an overproduction of cherries in the near future? I don't believe so, like the apple they have extended its use in so many ways by canning and preserving, manufacturing syrups, etc., that today cherries can be contracted ahead for a term of years for more money than we received four or five years ago for our crops.

In this day many a housewife does not secure the quantity of cherries each year she would like for family use. There is creating a greater demand from all the large centers of population for more fresh cherries year after year at advancing prices. We are surely not overproducing the cherry at this time, and my experience teaches me that well cared for Cherry trees of standard varieties are fully as profitable as any fruit that can be grown upon the farm.

Don't get the idea that you can grow cherries profitably on any kind of land where apples and pears can be grown. The cherry to do its best must be planted on high and dry well-drained sandy or gravelly soil. Cherry trees will not stand cold wet feet. The cherry is fully as susceptible to injury as any fruit grown.

From my own observation, for years, cherry trees have flourished along the highways and have produced bountiful crops annually along the famous Ridge Road throughout Western New York. Here is your high dry well-drained gravelly soil and many of these cherry trees I dare say, are forty or more years old and are still producing good paying crops annually. Many a fruit grower from this lesson has in recent years planted cherries along the highway of their farms in the place where the old fences used to stand covered with elderberry bushes, wild grape vines, weeds, etc., and today their old fence balks are producing enough profit to pay all the taxes on the farm and some besides.

We hear a great deal about the far West growing cherries to perfection. We find the fruit arriving early on our Eastern markets, put up in very attractive packages, ten pound boxes selling for two dollars or more. Like the Western box apples, we may not have the looks, but our cherries have the quality. It will have to be admitted that the far Western growers have excelled us Eastern fellows in the packing of all kinds of fruit. Long distance and heavy expense by transportation to get their fruit on to our market in perfect condition, has forced the Western growers to do things right. But with their system of handling and packing and our natural resources, there is no better territory in the United States to grow the Cherry for profit than right here in Western New York. Our land is much cheaper than the far West irrigated sections; we have plenty of moisture furnished by our usual rainfall during the season; our climate is ideal for the cherry to mature; trees live long, attain great size and very seldom fail of a crop, as cherries are annual bearers. Occasionally a crop is cut short by a frost or rainy season at blooming time.

In the marketing we have all the advantages over the Western grower and other sections of the United States. We have large canning and preserving establishments right in our midst to take care of all surplus stock and we are nearest to all the big centers of trade population, etc., where perishable fruits can be delivered at the least expense in fresh condition to the housewife the first or second day after it has been harvested.

Now as to varieties, if you look through the various fruit catalogs, you will find there are eighteen to twenty-five or more varieties listed. To my mind you don't want to get too many varieties to grow for commercial purposes. Have enough of each variety so as to make a paying business when trees commence bearing. It is easier to get help in my experience to harvest two acres of cherries than a few trees in the garden. Have enough of each variety to interest buyers. Growers of a quantity of the best commercial and shipping varieties always outsell small lots.

For commercial purposes, I would recommend for Western New York, the Montmorency and the English Morello for the sour varieties, the Black Tartarian, Napoleon and Windsor for the sweet varieties. The Bing variety, grown in the West, is also well recommended and is said to do well in this territory.

A few years ago about all we heard of in the sour variety was the Early Richmond. Today to my mind the best all around sour cherry is the Montmorency.

The tree is a firm grower, bears at an early age, is hardy, fruit is of large size and is in great demand by the canners and preservers. At the age of five years it commences to bear at a profit, and with my own experience, at the age of eight years, with trees set twenty feet apart, it has produced at the rate of five tons to the acre.

I understand this valuable variety Montmorency Cherry originated in France was imported into this country about thirty years ago and was first disseminated by our worthy President's firm, Ellwanger & Barry, who first introduced it into this country. This variety ripens the last of June.

The English Morello is a sour cherry much sought after by the juice or extract manufacturers of syrups, on account of its dark color, good quality and rich acid flavor. Tree very hardy and will do well in extremely cold climate. It is a good variety for Western New York, comes after the Montmorency, ripens last of July.

In all four sweet varieties of cherries, the Black Tartarian, Windsor and the Napoleon and Bing, you have all the qualities that are most sought after for commercial purposes. The canners always pay the most for solid meaty cherries, such as the Windsor and Napoleon varieties, and they stand up in shipping much better than the soft thin skin cherries I am told by Benjamin F. Newhall that the Black Tartarian produced on his Northern Michigan farm more money per acre than any other variety of cherries he grows the fruit selling in Chicago and bringing a gross sale per acre of better than two thousand dollars. This variety is no doubt a good commercial variety for this section. Mr. Wade of Michigan, a grower, writes me that from four hundred large Montmorency Cherry trees, twenty years old, he produced last season 3200 16 quart berry crates—and they averaged \$1.50 in Chicago. This party states there is no other variety in his mind that will compare with the large Montmorency for profit. Mr. Wade also states that during the past ten years, they had not missed but two crops with spring frosts. He further states that his trees are only eighteen feet apart and if he were to set another orchard, he would set them at least twenty-two feet. At first his trees appeared to have plenty of room, but now the trees are crowding each other and he can no longer keep them down as the branches meet each other at the sides and no room to grow except higher up, and this means more expense to harvest them, as it takes a twenty foot ladder to reach the top of the trees.

Coming back nearer home, the Collamer Brothers of Hilton, N. Y. who have two acres of Montmorency Cherries, which I believe are thirteen years old, have produced over twelve tons each season for the past three seasons. I understood one Wayne county fruit farm produced \$600 worth of cherries on the road side in one season. Going into Ontario county one Canning Company made a payment of \$10,000 for the product of twenty acres of cherries in one season and this was not all the gross receipts of this one crop. The far Western growers are even relating bigger stories than I have given. I notice one account way out in British Columbia, where twenty-nine trees, ten and seventeen years old, produced on an average of two tons of fruit for two years. At first this sounds fishy, but that is only about 130 lbs. to the tree.

I am growing cherries myself in a small way for commercial purposes. I am growing mostly the Montmorency and the Napoleon. I am satisfied from my own short experience that cherries are paying me as well as any fruit which I have on the farm. This crop brings a little pin money into the family around the months of June and July, when the bank account is low.

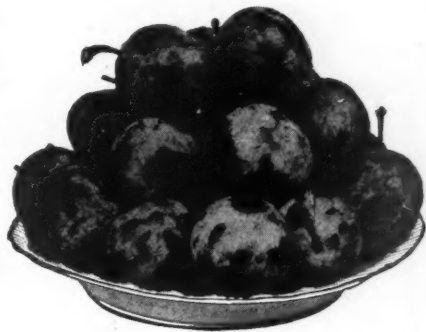
Some of my trees are ten years old and part are only five years old. I had ten year old Napoleon trees this season produce on an average of 100 pounds of fruit to the tree, and some extra thrifty trees produced as high as 150 pounds. My fruit as well as that of many of my neighbors, is contracted ahead at five cents per pound net f. o. b. Hilton, for a term of four years. I consider even at this price that my four acres of cherries which will be fourteen and nine years old four years from now, will produce as much net money per acre as any other tree fruit I have on the farm. From present indications on the last year of my contract, I expect this four acres to produce not less than twenty tons of fruit.

Gentlemen, those of you who live in Western New York and have any suitable land for the setting out even of a small block of cherries, get busy and commence planting. Set a few in the old fence balks along the road side for family use if nothing more. You will find many of the sweet varieties ornamental as well as profitable, when planted upon the lawn, along the street or avenue, producing an abundance of the most delicious fruit for the family table.

Best Trees to Plant Plum Trees

Plant Plum Trees in your garden, poultry yard and orchard. Plums and prunes are indispensable for the home garden. Many people prefer plum canned to any other fruit. What is better to eat than a big, ripe, delicious Plum? In the poultry yard Plum Trees give the shade which is needed and the chickens eat the fruit which drops. Plum trees bear abundantly in the poultry yard because of the rich fertilization.

In the cities the housewives are not able to buy the amount of Prunes and Plums they need for canning. Fruit growers are not growing enough plums. Plant a plum orchard and you will reap a good profit in a few years.



BEST VARIETIES OF PLUM TREES

Abundance	Moore's Arctic
Bradshaw	Niagara
Burbank	Red June
Climax	Reine Claude
Coe's Golden	Shipper's Pride
Drop	Shiro
German Prune	Shropshire Damson
Grand Duke	Thanksgiving Prune
Gueli	Wickson
Imperial Gage	Yellow Egg
Lombard	York State Prune
Monarch	

Dwarf Pear

Our president planted a row of Dwarf Pear Trees in his garden twelve years ago. The trees were planted three feet apart and extended across his vegetable garden.



These little Pear Trees thrived amazingly and have borne bountiful crops of excellent fruit each year. The blossoms in the spring attracted much attention. The advantage of Dwarf trees is first that you can plant them closer together because of their dwarf character. Second, the excellent quality of fruit which Dwarf Trees bear is easily picked while standing on the ground. Plant Dwarf Pear Trees this spring.

BEST VARIETIES OF DWARF PEAR TREES

Anjou	Lawrence
Bartlett	Louis Bonne
Clapp's Favorite	Seckel
Duchess	Vermont Beauty
Flemish Beauty	Wilden Early
Gans	Worden Seckel
Kieffer	

Cherry Trees

Cherry trees will produce six tons or twelve thousand pounds of fruit which will sell at five cents per pound. This equals \$600.00 per acre. There is big money in growing cherries. Plant cherry trees in large blocks, if that is not possible, plant a small block of cherry trees.

In Germany cherry trees are planted along the public roads and the road commissioner sells the fruit taking the profits to improve the road. You should plant Cherry trees along your roadside and along the fences on your farm. The money will come handy to pay taxes and then some.

Plant Sweet Cherry trees on the front lawn or in the garden. The trees are attractive and furnish good shade, also beautiful, ripe, luscious fruit for canning and eating.

BEST VARIETIES OF CHERRY TREES

Duke and Morello	Type—(Sour)	Hearts and Bigarreaus	Type—(Sweet)
Dyehouse	May Duke	Bing	Napoleon
Early Richmond	Montmorency	Centennial	Schmidt's Bigarreau
English Morello	Osthelm	Governor Wood	Windsor
Late Duke	Olivet	Green's Tartarian	Yellow Spanish
		Lambert	



Our 1912 Catalogue contains full description and prices of all kinds of fruit trees, plants and vines. Also ornamental trees and shrubs. GET OUR CATALOG AT ONCE, IT IS FREE.

Green's Nursery Co.

Box 91

Rochester, N. Y.



H. C. Phelps
President

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Over 150,000 Split Hickory Vehicles Now Giving Most Satisfactory Service

Phelps prints for you in his book a big map of the U. S. and Canada, showing exactly where over 150,000 Split Hickories are being used. Can and does tell you the names of the owners—probably dozens near you, if you wish to see or write to them.

Phelps' prices are printed in his book right beside every Split Hickory Vehicle—and full line of high grade harness—so you can figure exactly what your made-to-order Split Hickory will cost you, if you keep it after 30 days' road test. Get this book whether you buy of him or not.

If you cannot be absolutely satisfied Phelps don't want you for a buyer. But he wants you for a new customer—to satisfy you at his risk, or not a cent's cost to you.

Try any Buggy Phelps Makes on Hard Roads

30 Days FREE

**Return It If Not As Represented
—Guaranteed Two Years If You Keep It**

Don't get Split Hickory Vehicles mixed up with any other buggies made—they're entirely different. Higher grade—better style, better trimmed, better painted, longer lived, easier running—that's because they're made to order, just as you want them, when you want them. Why buy a common buggy and pay more for it?

Phelps has the confidence of 150,000 farmer customers. He will get your confidence if you'll give him the chance. This big buggy book for 1912 shows 125 styles to choose from. More buggies than you could see in ten big towns, or 25 dealers' stores. Why not send for this free book? Take a walk with Phelps through the biggest buggy factories of their kind in the world—let him tell you all about his buggies, and show you how by his direct method, he can save you big money, and give you a better vehicle. Many styles—Auto Seat Buggies, Phaetons, Surreys, Road Wagons, Runabouts and a full line of Harness are fully illustrated and described. To get the Book, just address a postal: "Phelps, I want your Book," to

The Ohio Carriage Manufacturing Co.
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Largest Factory in the World Selling Vehicles Direct to Consumer.

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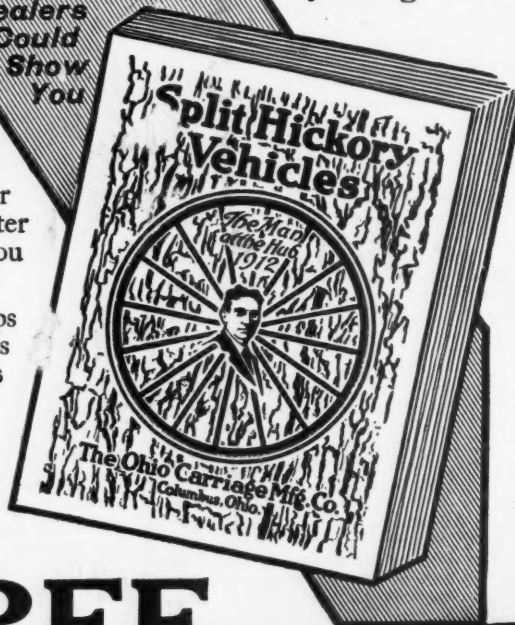
PHELPS—the only manufacturer in the United States making vehicles in large quantities to order for individual users—highest grade made—trade-marked Split Hickories—has just finished his 12th annual Big Book and wants to send you a copy.

In His Factory—Phelps stands right over every one of his jobs in the making, and knows that the best materials and expert workmanship go into it.

In His Book—Phelps tells you in his own experienced words, about values—and Phelps knows—and how to avoid weak spots in buggies. He stands right by his Split Hickory jobs, and points out in photographs the parts you ought to examine. Shows you in colors and photographs on page inserts in his book 3 feet across, just exactly what he makes and what he puts into every Split Hickory.

On Your Place—Phelps stands right back of any Split Hickory and you can test it on your own roads behind your own horses 30 days at his risk, and then have two years' guarantee if you keep it.

—His Big 1912 Book Shows More Buggies Than 25 Big Town Dealers Could Show You



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